■ ORNITHOLOGY

Scientists study the secret of flight in a wind-tunnel

Tests with model aeroplanes in wind-tunnels are routine business for aerodynamics experts and aircraft constructors. The man-in-the-street regards these tests as obvious research techniques. It is also fairly well known that models of buildings, bridges, television towers and skyscrapers have to pass the wind-tunnel test.

But it is not so well known that scientists observe the effect of wind-tunnels on insects such as the house-fly.

Professor Werner Nachtigall of the Zoological Institute of Saarbrücken University and five assistants are, however, engaged on a research project which is unique in Europe, trying to solve the remaining riddles about the way insects and birds fly, with the aid of the wind-tunnel.

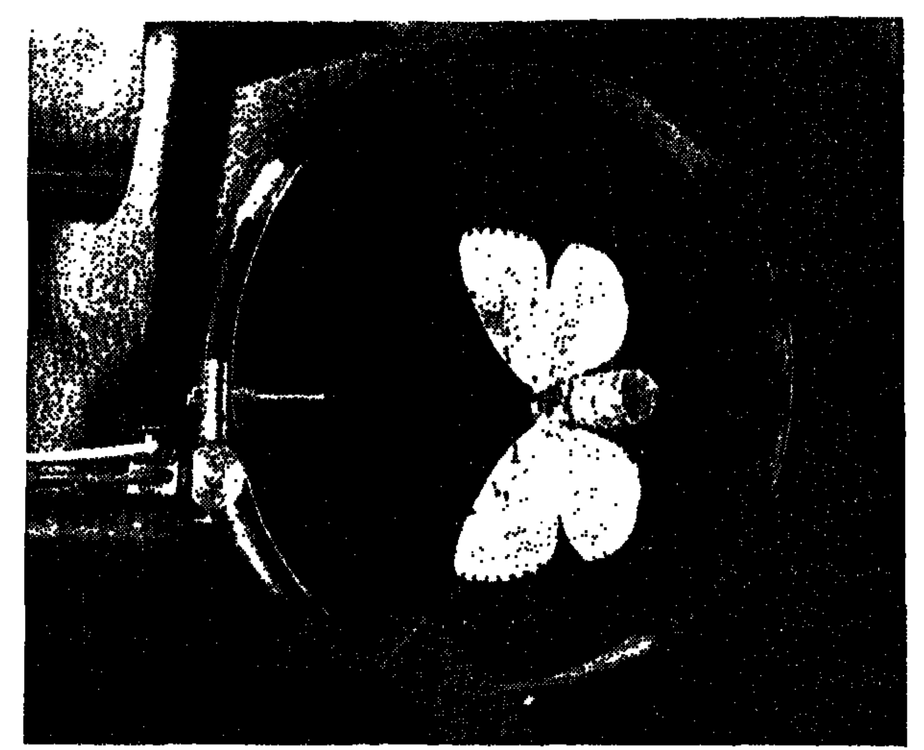
The project sponsored by the Federal Republic Research Community touched on a border area of the natural sciences, bringing biologists and physicists together.

The Saarbrücken research team is trying to throw some light on a little known aspect of biophysiscs, the biological and physical aspects of the way birds and insects fly. Their 'guinea-pigs' are birds, locusts, butterflies, bees and flies.

Physicists and technicians from Siemens have provided the biologists and zoologists with the materials they require including the most sensitive of electronic equipment to make the most detailed of measurements, store them and reproduce them when required.

Experiments with tiny insects that are constantly beating their wings and struggling are a labour of Hercules. Professor Nachtigall said: "The problems of taking these measurements are a confounded nuisance. A researcher needs the patience of Job."

The experimental creatures will not just be observed for their reactions to the wind-tunnel – it is hoped they will supply answers to previously unanswered questions. For example: what muscles control which movements? How do muscles move the animals' joints and how do these in their turn move the wings?



An experimental butterfly at Saarbrücken

(Photo: Siemens)

What are the frequencies of wing-beats? At what stage and how is life and direction achieved? How much energy is required? How does the animal's metabolism keep it going during flight?

Of course these questions can only be tackled when the insect is in flight, but it cannot be allowed to fly away. It must be anchored in some way.

To beat this problem the researchers used cunning, building their measuring equipment in a wind-gunnel. Thus they hope to obtain readings on movement, torsional moment, life and forward propulsion in insect flight. The insect is attached to a sophisticated weighing device by a blob of wax.

A piece of paper is placed under the insects' legs. When this is removed they believe they are about to fall and thus start beating their wings. A servo-mechanism sets the wind-tunnel in operation and controls the force of the wind. If the insect is flying at a speed of two metres per second the machine will counter this with a headwind of two metres per second.

Cine-cameras whirr and measuring equipment swings into action. Infinitesimal electrodes on the body of the "test-pilot" pick up impulses from muscles and the like and these are relayed through amplification equipment.

Some results so far achieved show that a fly beats its wings 300 times per second.

In this second it covers a distance equalling 250 times its body length. Magnetic tape equipment and special oscillographs help to cut this supersonic travel down to size and turn it into a slow motion "action replay". In this way wing-beats of up to 100,000 per second can be slowed down 32-fold.

Of course the question that is bound to be asked is "what use is all this knowledge?" Will it benefit aviation technology?

But the question of "use" does not come into it. Scientific research cannot be measured on a normal scale of values. Its purpose is to close remaining gaps in human knowledge. Aptly named Professor Nachtigall (his name means nightingale) and his assistants simply want to know how the machinery of insect and bird flight operates, what factors are at work and how they interact.

Physicists have known for years that there will never be an aeroplane with outsize insect wings. Insect wings are much better constructed than aeroplane wings could be. Professor Nachtigall commented: "Nature does not provide blueprints for technologists."

Scientists can only study how Nature has overcome its construction problems. It is up to him whether this inspires him to improve the design of human creations.

Gerhard Taube

(Deutsches Allgemeines Sonntagsblatt, 5 November 1972)

A Pill strictly for the birds

Kölner Stadt-Anzeiger

Pills for pigeons – that is Cologne's plan to keep down the feathered population. The public health sub-committee of the city council has decided that the birds must go on the Pill next year and has made 20,000 Marks available for the new anti-pigeon method.

Thus Cologne, like a number of other cities before it, has modernised its plans for keeping the pigeon population down, ousting old-fashioned methods such as poison, bird scarers and guns. The main trouble with these methods is that they leave dead bodies lying around and pigeon-fanciers are soon up in arms. With the new method the unwanted birds will never be born in the first place.

The Pill for pigeons is to be tried out in eight test areas first of all. For a few days pigeons in these areas will be fed with pure corn. Then the menu will be changed to a doctored meal of corn plus contraceptive.

Cologne's council decided on this method even though, as sub-committee member Dr Winkler (FDP) said "the success cannot be measured scientifically and the method is very expensive".

It is difficult to tell whether the number of eggs hatched successfully is really greatly diminished because pigeons living in the wild in a city cannot easily be collared. Furthermore it is a difficult matter to count pigeons that have never hatched!

But in towns that have already introduced such a scheme success seems to be the watchword. The major difficulty of administering the contraceptive is that a shower of rain washes it off the corn and makes the bait useless – the pigeons end up fed and fertile. To make the scheme more likely to succeed it is essential to lure the pigeons to feeding places where there is cover.

Cologne Zoo has welcomed the changeover to the Pill in the fight against the plethora of pigeons. The Zoo's scientific adviser Dr Michael Gorgas said: "Now we can hope to see a decline in the number of pigeons in Cologne, which we advocate because sick pigeons can pass sicknesses on to human beings. City pigeons are always a menace to people."

It is for this reason that the public health sub-committee has taken up the Pill campaign.

According to Dr Gorgas the "Pill" must be given to the pigeons constantly in their food, even in the winter, because domestic pigeons do not have a specific breeding season, and they make up a large part of the pigeon population in towns. Male pigeons can be seen courting their lady friends in roofs and gutters at any time of the year.

Only in the depths of winter when it is really cold do the cock birds lose some of their ardour, according to Dr Gorgas.

A chick hatched in winter in some sheltered niche of a house stands a good chance of overcoming the rigours of the cold weather. The main problem for its parents is providing food, but that is not usually hard to find in a big city.

The city is a paradise for pigeons and naturalists have noticed that wild breeds that move to The Smoke change their habits. They, too, have taken to breeding at all times of year.

Friedrich K. Kurylo

(Kölner Stadt-Anzeiger, 4 November 1972)

Dr Koepcke's last work – nest-building in the tropics

Ornithologist Dr Maria Koepcke, who was killed in a plane crash last Christmas in the primaeval forests of Peru in which her daughter Juliane was the sole survivor, tackled a question of survival for birds in her last research project.

How, she probed, can birds survive in tropical rain forests when hordes of apes are able to search the trees from ground level to the highest branches rummaging for nests.

In her posthumous report in *Journal für Ornithologie* she writes that a bird's nest is comparable to an organism that is tied to one place and cannot move to defend itself. The groups of apes numbering between thirty and fifty are a particular menace as are other marauding animals, toucans and owls. Even snakes and ants eat eggs and the young from nests.

In fact of all broods in the dense jungles very few young survive to make old bones. Dr Koepcke collected her facts in three years' work in an observation area of just two square kilometres. Her husband helped her cut her way through the jungle.

Since so many different predators threaten their nests the birds have tried various different methods throughout evolution to ensure survival. About one in three jungle birds breeds in sheltered hollows where the nest is well protected. Parrots sometimes "convert" deserted ants' nests. Smaller songbirds tend to build their nests at the end of slender overhanging branches so that an ape that tries to attack the nest risks a plunge.

Some birds dare to build their nests lower down, but make sure they are over primeaval rivers. Still others build nests to look like old leaves that have fallen from high branches and become trapped in lower ones.

One type of bird is particularly cautious. It choses a site for its nest on the ground long before it plans to breed. It scratches out an entrance to the nest and then meticulously scratches out several false entrances leading nowhere. It does its best to cover up the work with old foliage but the pile of sand is an obvious marker. So the parent bird leaves the site of the nest untouched often for two or three months. In this time falling leaves help to hide the construction and in the meantime the bird can check the safety of the nest from predators.

Another type of bird that builds the most tiny and modest of nests goes to great lengths to build a great palatial nest as well – but this is never used. It is simply used as a decoy to ward off egg-hunting predators.

In all Dr Koepcke discovered ten tricks used by jungle birds to ward off their enemies. Although many eggs are lost and young gobbled up these birds increase their chances of survival by being able to breed practically all year round.

No method of nest-building is absolutely safe. Not even the trick used by the primaeval-forest wren which delegates the duty of protecting the nest. Its helper in this case is a vicious species of ant with a painful sting which just loves using it! At the slightest hint of an unwanted visitor the ants go on the march and when they bite the sore spot stays sore for a fortnight.

Gustav Adolf Henning

(Frankfurter Rundschau, 3 November 1972)

The German Tribune

A WEEKLY REVIEW OF THE GERMAN PRESS

Hamburg, 21 December 1972
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Future Bonn policies must accept international recognition of GDR

Europe today can be compared with a large house. The two world powers America and Russia live in two roomy ground-floor apartments. On the upper floors some thirty or so countries are variously accommodated and right at the top there live a couple of middle-aged divorcees.

This couple used to share a flat but then they split up and for many years lived in separate apartments.

A kindly observer of the German scene recently described the Geman situation in these terms at an international conference, adding that for years the divorcees have created such a rumpus on the top floor landing that other residents have been disturbed and at times worried.

Now that they are on better terms again the other residents, paragons of morality all, are worried lest they might want to live together again.

This comparison is a little on the frivolous side but it is accurate enough as comparisons go. It reflects the relief felt by Germany's neighbours that the two Germans have partly buried the hatchet over the past year yet also bears witness to a certain anxiety lest rapprochement go too far and an overpowerful united Germany be resurrected one of these days.

Nearly every Western European capital is currently deciding when to recognise the GDR, and not merely in view of the understandable wish to establish closer contact with the most powerful industrial country in the Eastern Bloc after the Soviet Union.

At the same time the rest of Europe hopes that the German Question will be the cause of no further conflict for at least a generation and is hastening to ensure that the seal of finality is appended to the newly-established facts.

In this context what is surprising over the past two decades is that the Federal Republic for so long succeeded to a large extent in internationally isolating the GDR.

In the days of the Cold War this proved possible only because many other nations supported this country in its protest against the transformation of one part of Germany into a communist State and because the three Western powers had, in view of West Berlin, a vital interest in not recognising the GDR as a sovereign state.

It took the *Ostpolitik* pursued by the last Bonn government and the Berlin Agreement negotiated within its context to pave the way for general recognition, in which the Western powers will now also participate.

In trying at the meeting of the Nato Council of Ministers to ensure that there is not a run on East Berlin Bonn was safeguarding Western prestige, but the delay can hardly be said to retain much in the way of political significance.

In a year's time the GDR will have been recognised by the overwhelming majority of countries. It will be a member of the United Nations and the division of Germany will, in the eyes of the world, be more clearly apparent than in the past.

This is the basis on which all future policies will have to work, regardless whether, as in the case of the Opposition Christian Democratic and Christian Social Unions (CDU/CSU), it is felt to be a disaster or, as in the case of the ruling Social and Free Democrats (SPD/FDP) it is considered an inevitable necessity.

The only point at issue is how, in the circumstances, relations between the two German states will develop.

In recent years the Bonn Federal government has skilfully manipulated various levers ranging from official acceptance of the two-state theory to acceptance of United Nations membership to achieve progress in intra-German relations.

Within the framework of the Berlin Agreement, the transport agreement and the Basic Treaty a certain amount of progress has been made, but the impression on the whole is that the Federal government has tended to be overoptimistic, in a number of instances showing undue confidence in the good will of the other side.

Setbacks may recur and Bonn is partly to blame. It is no good for eager commentators to explain that the GDR has been pressurised to the brink of its ability to survive and that understanding must be shown for arbitrary travel restrictions and other measures.

It is true enough that a state such as the GDR which boasts a political system with which, to put it mildly, many of its inhabitants are not in agreement will find it hard to cope with the fresh winds of free opinion. The East Berlin leaders can thus be expected to continue to try their best to stem the tide of influences from the Federal Republic.

At present at least the Communists' fear of democracy is both greater and more justified than some democrats' fear of the Communists, but there is no occasion for conceding to the powers that be in East Berlin that they are right in screening "their" people off from the West.

In the continuing contest between the two political systems we too must remain on our intellectual guard. We must, for instance, persist in avowing the value and validity of our political views and ideals. When the East precludes the possibility of ideological compromise we have still less cause to befog issues.

This fact will remain dominant in international relations between the two German states once they start to compete directly all over the world. Anxiety lest the Federal Republic and the GDR appear arm in arm is nonsensical at the moment and the prospect is fairly improbable in the foreseeable future.

The GDR will continue to try and run diplomatic rings around this country and will have no shortage of opportunities since there are no end of irresponsible demands made by various countries that Bonn must oppose, partly out of consideration for its allies and partly out of its own sense of responsibility.

The Basic Treaty will not put an end to German squabbles. It will merely transfer them to a higher plane.

Wolfgang Wagner

(Hannoversche Allgemeine, 9 December 1972)



Nobel Prize award

Heinrich Böll receiving the Nobel Prize for Literature from Crown Prince Karl Gustaf of Sweden. King Gustaf VI Adolf was unable to attend because of a cold. (Photo: dpa)

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Finland recognises East Berlin

Now that Foreign Ministers Ahti Karjalainen of Finland and Otto Winzer of the GDR have signed the 8 December Helsinki agreement on the establishment of diplomatic relations between Finland and the GDR it looks as though the two German governments are for a while going to be differently represented in the Finnish capital, the GDR by an embassy, the Federal Republic by its existing trade mission.

By extending the invitation to Otto Winzer so swiftly Finland has carried out its declared intention of being a step and a half ahead of other governments in according diplomatic recognition to both German states.

Other European countries, Denmark and Sweden leading, are queueing to be in line for recognition of East Berlin as well as Bonn as soon as possible after the signing of the intra-German Basic Treaty. Finland occupies a special position.

Helsinki has hitherto entertained diplomatic relations with neither German government, strictly applying its policy of neutrality on the assumption that the German Question remained unsolved.

Because of the terms of the 1947 peace treaty and the 1948 friendship, cooperation and mutual support pact with the Soviet Union, renewed in 1970 Finland has felt unable to grant diplomatic recognition to the two German states, the German Question being a bone of contention between the great powers.

By offering on 10 September 1971 to establish diplomatic relations with both German states Helsinki started the ball rolling. It was now back in the Finnish court. Finland's demand for 400 million Marks in reparations from both German states as successors to the German Reich for the destruction wrought by German troops towards the end of the war in Lapland has not proved a stumbling-block.

East Berlin has extricated itself from the noose by declaring itself ready to negotiate on this issue at a later date, while Bonn has referred to the London agreement precluding the payment of reparations to Finland.

In one respect both German governments can meet Finland half-way. By renouncing the use of force they will provide Helsinki with a certain amount of leeway in its relations with the Soviet Union, the clause providing for Finno-Soviet mutual support in the event of a German attack being rendered superfluous.

H. Löffler

(Kieler Nachrichten, 11 December 1972)

■ FOREIGN AFFAIRS

Nato planners have difficulty coordinating their efforts

Hannoversche Allgemeine

Nato Defence Ministers agreed in 1966 no longer to leave armed forces planning to the tender mercies of domestic policy coincidences in member-countries. Five-year plans were to be drawn up and reviewed and revised yearly.

The official aim of this planning was to put Nato on a sound long-term military footing, but politically defence planning was advocated by Washington in particular as a means of committing all Nato members to effective military outlay over a period of more than twelve months in view of a detente outlook that was slowly gaining ground. This applied especially to countries that were thinking in terms of cutting back defence expenditure.

The Nato Defence Ministers currently meeting in Brussels will have discovered that none of their number is either able or willing to commit himself to armed forces planning targets for more than a year.

Reasons are easily found. The United States, The Netherlands and this country have just been through general elections, Denmark is in the middle of a defence policy review, Belgium has a government crisis and the Norwegian government does not by any stretch of the imagination command a parliamentary majority.

Yet in previous years none of these reasons would have been sufficient to stymie longer-term Nato defence planning. The reasons for current reservations are deeper-seated.

Everywhere defence structures are being reappraised, not so much in order to plug gaps in the Western alliance as because spiralling personnel and material costs threaten to burst the bounds of defence budgets.

In view of the rising costs of training and equipment one wonders how long large-scale armies can be maintained in this day and age, certainly in the Western democracies, where voters are understandably dubious about mammoth defence allocations.

What is more, the beginning of the East-West preliminary talks in preparation for the conference on security and co-operation in Europe and the forthcoming preparatory talks on mutual balanced force reduction in Central Europe hold forth the prospect of so great a relaxation of tension that a number of Nato countries are already no longer willing to commit themselves to major long-term defence expenditure.

Denmark is in the middle of a defence reshuffle involving a swift transition to a smaller, longer-service army. In Belgium there are plans to reduce the conscription period. In Norway the territorial reserve is to be cut back.

In Nato circles these developments are viewed sceptically, even though long-term structural changes in Western defence policy may have been accepted as inevitable because of rising costs.

But the changes planned or in progress in a number of Nato countries evidently go too far too fast in the eyes of North Atlantic defence planners.

Far-reaching changes in military structure presuppose a change in defence policy aims. To forgo a mass army is to assume that full-scale military conflict is a thing of the past.

Yet, so Nato planners argue, the incipient political dialogue between East and West has not by any manner of means stopped the Warsaw Pact from steadily strengthening the Eastern Bloc forces.

Budget difficulties notwithstanding, European Nato members would doubtless have agreed to longer-term troop strength planning if the United States had brought pressure to bear, as in the past.

But President Nixon is not keen on committing himself either for any length of time at present, so Europeans need not be too afraid of US pressure.

The other side of the coin is less gratifying, though. In return, as it were, Washington is not prepared to commit itself to maintaining the present US troop strength in Europe for any specified period of time.

In years gone by America's partners in Europe would have been most mistrustful of shilly-shallying by the United States on this point. Now they are, on balance, happy in this way to be able to circumvent unpleasant transatlantic issues.

After years of vain efforts the pressure broght to bear by rising costs would, however, seem to be convincing Western Europe of the need for joint armament planning.

The Defence Ministers of European Nato countries will probably reach or pave the way for agreement not to develop independently armaments of any kind, particularly costlier items of equipment such as tanks, anti-tank missiles and aircraft.

Western European arms cooperation would not only cut out duplication of development costs; it would also cut production costs because there would be longer runs. It would also lead to standardisation among the armed forces of Western Europe at least, another aim Nato has long failed to achieve.

Thomas Löffelholz

(Hannoversche Allgemeine 4 December 1972)

The Pompidou-Brezhnev meeting puzzle

On whose initiative has the surprise meeting between General Secretary Brezhnev and President Pompidou been arranged? Political observers in Paris are still wondering.

The official comment is that this third encounter in fifteen months is a perfectly normal part and parcel of the Franco-Soviet consultation agreement.

But since elections to the French National Assembly are slated for next spring the connection between the mid-January summit and the general election can hardly be denied.

At first glance it seems strange that Moscow is lending the Gaullists electoral support so shortly before the election deadline, so at least embarrassing the increasingly powerful left-wing alliance of Communists and Socialists.

On reflection it will be recalled that the Soviet and French Communist Parties signed a fundamental agreement last July in which, shortly before M. Pompidou's visit to the Soviet Union, the French Communists were obliged to commit themselves to Gaullist foreign policy.

Gaullist foreign policy to a large extent tallies with Moscow's concept for Europe, so one can understand why the Kremlin is unwilling to countenance experiments in France.

A Popular Front government in Paris that upset other Western European governments and rendered them less willing to cooperate with the Soviet Union is clearly not what Moscow would prefer, and at present new structures in Europe are more in Moscow's line than structural improvements in France.

What is more, Franco-Soviet controversies in recent years — in the context, say, of Czechoslovakia or Soviet Jews — have almost invariably emanated from the French Left. As far as Moscow is concerned, everything in Paris is alright as it is.

(Süddeutsche Zeitung, 7 December 1972)

Bonn-Prague normalisation still a long way off



Normalisation of relations between Bonn and Prague has so far repeatedly failed to come about because of the Czech demand that the 1938 Munich Agreement be declared invalid from the moment it was signed.

Bonn governments from Chancellors Erhard to Brandt have only been prepared to allow that the Agreement was unjust and is now invalid.

In 1938 the Prague government of the day itself acknowledged the Munich Agreement and enforced its terms on Czechoslovakia's behalf.

This is not, of course, to deny that the Agreement represented a brutal move on Hitler's part, but facts are facts and Bonn cannot but suspect that attempts by Prague to deny them will prove to have been merely the precursors of further Czech demands.

Of late there have been indications from Prague that Czechoslovakia might be prepared to forgo the demand that the Munich Agreement be declared invalid from the word go.

Were this interpretation of a speech by Party leader Dr Husak and other official pronouncements accurate, the door to negotiations would be open. Maybe Moscow has given the go-ahead.

The Soviet Union started the ball rolling with the "invalid from the word go" claim, having itself declared in 1938, as a non-signatory, that the Agreement was not binding. Maybe it has now lost interest in the idea.

Relations between this country and its closest Slav neighbour could certainly been changed overnight, just as ties with Moscow, Warsaw and Bucharest have already been normalised.

Despite political differences the economic and cultural benefits for both Czechoslovakia and this country, separated as they are only by the Bohemian forest, would swiftly come to light.

Bonn and Prague ought to state without delay whether or not their bone of contention has been settled. The return to normal in relations between this country and Eastern Europe could then be completed.

(Süddeutsche Zeitung, 1 December 1972)

UN terrorism debate gets nowhere

KielerNachrichten

No great gifts of prophecy are required to forecast that weeks of debate about international terrorism by the UN legal committee will prove to have been in vain.

The only realistic prospect of stamping out terrorism is international cooperation to ensure that terrorists receive neither aid nor encouragement, neither refuge nor asylum, and there is faint hope of this coming about.

The US draft resolution, which had this in mind, was bitterly opposed by People's China and a number of Afro-Asian countries that insisted on a definition of terrorism.

Logically enough, these countries are determined to countenance such terrorism as can be represented, from their respective political viewpoints, as part and parcel of the struggle against foreign domination, racism, colonialism and the like.

Yet if you first stop to consider the motives behind a hijacking or the murder of a hostage you might just as well not bother trying to stamp out terrorism.

You are then in the same awkward and unfortunate position as the Bonn government, which, partly through its own fault, has still not summoned up the courage to pass on to the Libyan authorities the Bavarian application for extradition of the three Arabs who murdered their Israeli hostages in Munich.

When political considerations are allowed to intrude on what is primarily a matter of justice the dragnet becomes a loosely-meshed affair and murderers, bandits and blackmailers will continue to give it the slip because of political considerations of one kind or another that appear to have to be taken into account.

The third of the three resolutions before the UN will not help much either. It refers to Interpol and expects an international legal commission to draw up an agreement on measures to combat terrorism.

Interpol's hands are tied the moment a terrorist is rated a political hero and the finest of agreements is of little use when air pirates and murderers of hostages are suddenly made out to be freedom fighters.

Cyrill von Radzibor

(Kieler Nachrichten, 30 November 1972)

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■ DOMESTIC POLITICS

SPD and FDP will cooperate on different terms to the past

Considerably different conditions will govern the formation of the second alliance of Social Democrats and Free Democrats than applied to the first. The two partners who are now negotiating the terms of the renewed coalition are both filled with self-confidence. Nothing underlines this more heavily than the warning issued by the Chancellor to the coalition parties to treat each other fairly and not to overplay their hand.

Following the 1969 general election there was considerable doubt about whether the SPD/FDP coalition would come into being at all. Quite literally the FDP achieved the position of coalition partner in a government alliance with its last gasp. Both parties were filled with doubts about whether this coalition could stand the slings and arrows.

But after the 1972 premature general election both partners have been strengthened and no one is wondering *whether* the partnership will be continued - the only point in doubt is: on *what* terms?

All the analyses of the election results agree that the FDP was given its big boost by the voters as part of a coalition. The electorate can only view the Free Democrats' political role against the backdrop of the socialist/liberal coalition. This will remain the case for the foreseeable future.

What is crazy is the legend that the FDP borrowed votes from the SPD, but this legend is persistent. Most FDP voters would deny categorically that they are social democrats afraid to vote SPD — their contention is that they want a continued SPD/FDP coalition but with a change in the political balance, namely a stronger Free Democrat say.

The outcome is that the alliance between the two parties is stronger, but their rivalry has been given a new edge. There is a whole series of arguments to back up this thesis.

The voting pattern for the coalition can, the analysts say, be split up into the "comrades" trend and the "bourgeois" trend. In other words the SPD has won voters from among the working classes in the towns and people in rural areas. The FDP's main gains have been from among officials in the service industries and skilled labourers.

This labour division of the vote poses problems for the political future of the SPD. Skilled labourers were once the backbone of the Social Democrats, but it was only the breakthrough into the new middle classes that made the SPD a true popular party.

An SPD that has lost touch with these two groups runs the risk of missing its connection to modern social developments. This is a danger the SPD leadership understands all too well. They sense the challenge of the FDP.

The rivalry of the two parties will make itself felt in the Bundestag, too. In the last legislative period the FDP leadership was the motive force behind liberal policies. The parliamentary party suffered acute lack of numbers and in some spheres it was not represented at all adequately. When not divided it tended to be just dragged along. As a political force in the sixth Bundestag the FDP was for the most part negligible.

Today the FDP seems to be stronger not only in numbers, but also in quality. Maihofer, Martin Bangemann, Flach, Lambsdorff — all have left their mark on the Freiburg Programme. All feel themselves to be independent liberals and not just passengers on the coalition train.

The FDP's second string is also nothing to be coy about. So the role of the FDP will become far more clear-cut in the future, and that includes their role in the Bundestag. This will be emphasised by the fact that the SPD is not over-endowed with great rhetoricians and the Social Democrats are not giving the impression of being particularly united.

This is a development that would not have been possible without the FDP's Freiburg Programme. At Freiburg the FDP made a belated but concerted effort to make the socialised State its own property. They recognised that a constitutional State without social aid and security quickly degenerates into a class-ridden State.

Working on this basis the FDP has drawn up its own plans in competition with the SPD for certain spheres of social welfare — worker participation in management, accumulation of capital wealth in private hands and land laws.

The Freiburg reforms have often been misinterpreted. Politicians in the CDU/CSU and the SPD believed that the FDP had become three-quarters Social Democratic. It was from this that the image of the FDP as the party that will apply the brakes to any SPD excesses emerged.

In practice, however, it may turn out that way. The basic taxation proposals drawn up in the last legislative period are a good example. But it is grossly underestimating the political intentions of the FDP to write them off as the party that will control the SPD. In fact this is way off the beam. It is precisely the "left-wing liberals" such as Maihofer and Bangemann who understand the imperfections of the completely socialised State.

They have spotted the danger of a new type of underdog emerging, a type who will wallow in the pampering of his welfare requirements by State institutions and will lie back passively and expect everything from the State. He will become one of many who only opens his

DIE ZEIT

mouth to feed his belly and never to voice his mind.

It is these left-wing liberals who are in fact the sternest opponents of dogmatic Socialism with a ponderous bureaucracy.

Where legal reform is concerned it is quite superficial to write off the FDP as the party with its foot on the brakes. And now it is no longer true with regard to many aspects of social welfare policy. As far as capital accumulation for the man-in-the-street is concerned the FDP is pressing harder than its coalition partner for reforms. The FDP does not intend to water down the SPD's proposals for land-law reform or worker participation, either.

Where propaganda — or to use the modern term sharpening of the public's awareness — is concerned the Free Democrats will obviously be setting out to invalidate the old formula SPD = progress, and to earn itself the reputation as the progressive party.

Rivalry of this kind does not make the coalition discussions any the easier. They are also complicated by the FDP's desire to take over government responsibility in the spheres of economics and finance. It was clear from the outset that Walter Scheel and Josef Ertl would remain in their offices. But for a time it seemed as if Federal Minister of the Interior Hans-Dietrich Genscher would move to a new office. However, the SPD is not willing to give up the Finance Ministry, Genscher is not particularly keen on the Economic Affairs Ministry (and certainly not on a vestigial department of the old super-ministry) so he will probably not move after all.

The way in which the FDP Economic Affairs Ministry will be divided up and the way in which it will be run is of great significance for the future role of the FDP within the coalition and for the structure of the Cabinet as a whole.

If it is treated as a ministry dealing with trade, commerce and shipping and becomes a kind of office for the financial support of sectors of the economy experiencing difficulties it would be a square peg in a round hole as far as the government organisation is concerned, since it would not be a strong enough counterpart for Helmut Schmidt's super-ministry and would be totally inadequate with regard to upholding liberal principles.

As a ministry with competence for the economy as a whole it could be useful in the Cabinet, providing a reasonable division of power and as such would offer the FDP great political opportunities. The question is: has the FDP got the right man for the job? And if the FDP has got the right man will they give him this job. It would be a shame if this important post were given to the wrong man, just to improve the balance of power in the Cabinet or to reward a party member who has done sterling service.

Moreover Hans-Dietrich Genscher does not intend to make his mark in the history of German liberalism as the man for "law and order". He is in fact proud of the fact that in the election campaign he neutralised the topic of "internal security", but he too regards himself as a reforming minister.

The re-drawing of Federal state boundaries, reform of official law, press law reforms and above all protection of the environment are the main concerns of his ministry, the ground-work for them having been done in the last legislative period.

With Genscher as the minister for reforms it is quite likely that Hans-Jochen Vogel's ministry in the next government will be more modest than many people had hoped, and that Horst Ehmke, the departing Minister to the Federal Chancellery, will not be fobbed off with vestiges of the Interior Ministry. The Cabinet carousel is still spinning gaily.

There is every indication that from the point of view of personnel and also of political programmes the FDP will be a much more sharply defined party in the seventh Bundestag than in the sixth.

Just how sharp only time will tell. There is no ruling out the danger that good intentions will degenerate in practice and policy-making will be devalued into representation on vested interests. It is no use being seen carrying a copy of the Freiburg Programme under one's arm. And the Programme must be extended to cover other spheres.

Liberals are in agreement that in the long run the FDP has no chance of surviving as an independent party if it accepts the role of the brakes to the coalition car. As a party of three parts Social Democrats the FDP will influence nothing except the absolute majority of the SPD. So, the FDP is now sounding out the possibility of becoming a true third force in the land. It is precisely for this reason that the SPD regards its smaller partner as a coalition friend but a serious rival.

Up till now the FDP has been by and large a tactical corrective to the SPD. Now it is a serious challenger to its Social Democrat partners.

Rolf Zundel

(Die Zeit, 8 December 1972)

Renewed CDU/CSU cooperation still has to face problems

The combination of CDU/CSU in the Bundestag is to continue. The storm clouds seen approaching from the direction of Munich have dispersed. Franz Josef Strauss and Rainer Barzel have now both convinced themselves that a split up would have been unwelcome to the greater number of party members and would have made inroads into both parties.

Who is the victor and who the vanquished in this trial of strength organised by Strauss so soon after the lost election? Neither of the two party leaders is any the stronger — in fact in the eyes of the public both have emerged from this duel with dents in their image.

This is one of the unpleasant truths that both men must come to terms with. All in all none of the "union's" problems have been solved, neither from the point of view of personnel nor of policies.

Only one thing has become patently clear. In the future as in the past tail and dog will not be wagging together. Every attempt by the CSU to force its opinions on the CDU and thus make Strauss indirectly the leader of the Opposition will fail.

In the past few days we have seen how the mere suspicion that this is what was afoot has led to far greater solidarity in the ranks of the CDU, to a strengthening of its self-confidence and its defensive powers.

It is our curse to be forced to continue the parliamentary alliance, many a CDU and many a CSU politician may be feeling at present. But as the past few weeks have shown it is outsiders who feel this way. Now it is a question of solving problems that will be decisive for the future of the Opposition.

They are the same problems that would have had to be cleared up even if the Bavarian storm clouds had developed into a real tempest. This Opposition has just gone through three years of breathtaking tactics aimed at bringing down the SPD/FDP government in the shortest possible time. Now tactics will have to be shelved and a long-term opposition strategy will have be developed.

Four years are a long time, but the CDU/CSU must live through these four years. They must give up all ideas of acting as if they will be the government again tomorrow or the day after. In other words they must work out where they stand in principle where important topics are concerned. They must not become more demagogic, but harder when it comes to the nitty gritty.

It is hard to imagine that the CDU and CSU will not reach agreement on such a strategy. The fact that the two parties can agree over all main concerns, as is demanded by the CSU document, is something that we have seen in practice up till now, but it does not give the CDU and right of veto.

The union's desire to remain a broadly-based popular party and not to throw away this advantage as well will always be a decisive factor.

Is this not clearly a basis for future friction between the CDU and CSU? Sceptics will certainly be asking this question. Optimists will point out that the CDU/CSU has had to live with such friction in the Bundestag for many years now. There are numerous questions concerning party personalities to be sorted out, and this does not just apply to Strauss.

Since Adenauer's chancellorship ended the CDU has had a leadership problem, which it still has not been able to resolve. We all know that Rainer Barzel's undisputed skills as leader of the parliamentary party will be indispensable in the years to come.

Georg Schröder

(Die Welt, 6 December 1972)

■ ARMED FORCES

Commission recommends Bundeswehr re-structuring

The government set up a commission to study the structure of the armed forces and propose plans for a Bundeswehr of the eighties two years ago. The commission's recommendations have now been published. Theo Sommer was a member of the commission and he here outlines its proposals.

It has been an open secret since at least 1967 that the present structure of the armed forces cannot be maintained in the long run. The first attempt at reform under the then Defence Minister Gerhard Schröder failed because we had to take our allies into consideration.

Plans to increase the strength of the armed forces to 508,000 men were dropped and the level was fixed at 460,000. But this step alone was not enough to overcome the structural weaknesses of our forces. People began to realise that basic revisions were needed.

The structural weaknesses are obvious:

Firstly, the Army does not have sufficient personnel to maintain twelve divisions, together with support units and territorial defence, with 325,000 soldiers. On average only 65 per cent of the Army is ready for action. Its operational preparedness is further weakened by the fact that half the conscripts have to be trained in combat units.

Secondly, the proportion of total expenditure spent on defence has steadily decreased in the last ten years. It has dropped by an average of 0.6 per cent to 16 per cent of all State expenditure, 3.2 per cent of the gross social product and 22.5 per cent of the Federal budget.

Thirdly, at the same time as there has been a drop in expenditure, new equipment has become steadily dearer and operational costs, especially staff costs, have rocketed. The armed forces are always having to postpone the purchase of necessary equipment it cannot yet afford.

Fourthly, it is evident today that previous plans for longer-service soldiers have been wide of the mark in view of the social conditions in this country and the situation on the labour market. It is time to be honest in this respect.

Fifthly, the number of conscripts available will increase so much in years to come that only half will actually be called up if the armed forces are not to be inflated beyond all proportion. Drafting all those fit for military service will not guarantee absolute fairness in the armed forces.

As a result of these structural shortcomings a number of criteria have to be borne in mind when planning to reform the armed forces. On the one hand a Bundeswehr at roughly the present strength of 470,000 men will be required unless there is a basic change in the international situation. On the other hand some thirty per cent of the defence budget must be set aside for materiél primarily for the purchase of new equipment, if the armed forces are to be kept up to date.

The commission appointed to study the structure of the armed forces worked for 22 months on the report that has now been submitted to the government. During the course of its investigations it ruled out all those proposals that have dominated public discussion in recent years.

It decided against a professional army, a militia, the mixed form — half professional army, half militia — once favoured by Helmut Schmidt and the "core and mantle" scheme put forward by former Inspector General Ulrich de Maizière.

A volunteer force is certainly efficient and cost-effective. It creates no problems concerning the fairness of the conscription system. It may perhaps be most in keeping with the administrative ideas of a society based on the division of labour and tending towards professionalism.

But it is impossible to recruit the necessary number of long-service soldiers for a force of this type. A Bundeswehr of the type we have today — with 33 Army brigades plus an air force and the navy — would require ninety per cent more long-service soldiers than are available at present.

A volunteer force with only 27 army brigades would eat up 22 milliard Marks in operational costs alone. ninety per cent of total expenditure in 1972. A professional army would therefore be badly equipped or the defence budget would have to be increased by forty per cent.

As long as a force of 470,000 men is the minimum required for security, the professional army is no solution. This proposal will only be feasible when the Federal Republic's international position allows a force of some three hundred thousand soldiers.

The calculations are just as plain where a militia force is concerned. To conform to the Swiss system, the Bundeswehr would have to draw up some 180 divisions with about three and a half million soldiers.

Apart from the fact that the question of whether the social conditions for a militia exist in this country still has to be examined, an army of this type could neither be financed nor equipped. It would not be sufficient to fulfil our commitments to the Western alliance either.

We can also rule out any scheme dividing the armed forces into a core of highly-mobile units with modern weapons and a "mantle" of conscripts serving for six or nine months in lightly-armed units with limited operational duties.

Current strategy could not be continued with 24 brigades malting up the core and some eight hundred security

DIE ZEIT

companies comprising the supplementary units. The 430,000 long-service soldiers required could not be recruited.

The investment minimum would be far exceeded even if the proportion of the budget spent on defence remains the same. To put this scheme into operation, the defence budget would have to be considerably increased.

Any scheme drafting all those conscripts fit for military service on the grounds of greater fairness would also be unattainable or involve an unacceptable loss of fighting power.

Bearing in mind these difficulties, the commission recommends another scheme based on general conscription. The Army, it suggests, should be split into 24 full and twelve cadre brigades.

The full brigades will no longer have to train recruits and will be fully operational at any time. The cadre brigades will have a main body composed of long-service soldiers (25 per cent of the total strength), five per cent recruits and all the equipment.

These brigades could be brought up to full strength at any time by calling up reservists who did their military service within the previous three years and since then have trained regularly within the unit.

The money question would pose no trouble as the saving in operational costs — 130 million Marks a year for each cadre brigade — could be used for purchasing equipment. But the establishment of full defence strength demands early political decisions — three days before the force is required.

As not all able-bodied men can be conscripted when the basic period of military service lasts fifteen months, fairness must be guaranteed by some other method than just calling up as many as possible.

The commission proposes a system of payments to compensate those doing their national service (including tax concessions amounting to some 1,500 Marks) and penalise those who do not serve (this would take the form of a deduction also totally some 1,500 Marks).

This sort of solution might not be ideal — and the commission realised this. But a better system has still to be found — one under which not only those who serve the State are penalised, however much the pill is gilded.

Lobbyists and ideologists have been given plenty of scope for their arguments here. But it would be a sign of inappropriate standards and objectivity if public discussion of the proposals were to centre on this subsidiary question.

The structure proposed by the commission would have a number of advantages. There would be no savings in the defence budget, it is true, but the otherwise inevitable increase in expenditure will have been avoided. While making up the same proportion of total State expenditure — sixteen per cent, the proportion of the Federal budget devoted to defence would rise slightly from the 1972 figure of 22.5 per cent to 23.2 per cent in 1981. The proportion of the gross social product spent on defence would only rise from 3.2 to 3.5 per cent. More units would be operational at any time than is the case today and more would be available three days after mobilisation. The number of long-service soldiers required would also be in the realms of the possible.

A further advantage is the system's flexibility. It can always be adapted to current international developments. More brigades could be kept at full strength during periods of tension.

As detente increases — for example as a result of agreements on mutual troop reductions in Europe — the proportion of cadre brigades could be increased and at a later stage the number of large units could also be reduced.

The commission was completely independent and unbiased in its deliberations. The civilians and military men of varying political conviction passed the most important decisions unanimously.

The general recommendations have now been published. The reasons for them and the extensive computer calculations will soon be made available to the public as well.

Neither the military leadership nor any critics within the political parties will be able to ignore the commission's report. Any observer who has not pleaded for an increase in the defence budget from the very outset will automatically come to conclusions similar to those of the commission.

One thing is certain — the Bundeswehr cannot be maintained in its present form if it is to be both fully operational and equipped with modern weapons. Nothing can be achieved by insisting on keeping things as they are.

The Commission's recommendations may not convince everybody. But seldom have the factors behind a vital political decision been revealed to the public with such frankness and objectivity.

It is now up to the government — and Opposition. Both should try to emulate the commission in at least one respect. The unavoidable reorganisation of the Bundeswehr must not be turned into a party political issue but should be seen objectively as a joint task for the next few years.

Theo Sommer

(Die Zeit, 1 December 1972)

Politicians oppose commission's proposals

KielerNachrichten

The commission investigating the structure of the armed forces has proposed that a special tax amounting to 1,500 Marks should be imposed on all conscripts who do not serve while those who do their national service should be allowed tax concessions.

But there is little prospect of this being put into practice. After the commission's recommendations had been published the government and political parties represented in the Bundestag stated that though the proposals were interesting they could not base their decisions upon them.

The other two main demands made by the commission appointed by the government to propose ways of reorganising the armed forces of the seventies and eighties are:

* Fixing the defence budget at a minimum of sixteen per cent of total State expenditure, thus the proportion of investment would not be allowed to sink below thirty per cent.
* Forming 24 full brigades and 12 cadre brigades which will give conscripts their basic training.

The government's initial reaction was that it did not feel bound by the results of the commission's investigations or to its recommendations. It will publish its own conclusions after giving thorough examination to the commission's proposals. But no decisions can be taken until after thorough consultations with our allies.

The SPD and trade unions have rejected the proposal to impose a special tax on people not doing their national service. The Free Democrats have criticised the commission's report as being too inflexible, claiming it could prove an obstacle to foreseeable tendencies in disarmament talks. The Opposition found that the report did not answer a number of questions or treated them only in a very general manner.

The commission proposed that the cadre units should practise their operational preparedness with reservists every year. Two reservists should be available for each post. They will go on at least two fortnight-long exercises during the stand-by period of three years following basic military service. Afterwards, they will no longer be called out on exercises.

Reservists from the full brigades who are not needed to bring the cadre brigades up to full strength will be employed in the territorial army which will only accept a limited number of conscripts in future.

The commission decided unanimously that it was impossible to find a substitute for general conscription in the foreseeable future. Though volunteer units offer more advantages both militarily and socially and are also the most effective type of force, past experience has shown that the number of soldiers needed in our army for security purposes and because of our alliance commitments will not be raised through volunteers alone. Forces of this type would also involve far more expense than the present Bundeswehr.

The commission's plans and proposals are based on the condition that the proportion of the Federal budget spent on defence does not sink below sixteen per cent. The average 0.6 per cent drop in expenditure every year for the past ten years must be halted if the Federal Republic's previous defence policy is not to be jeopardised.

Gisbert Kuhn

(Kieler Nachrichten, 29 November 1972)

■ AMNESTY INTERNATIONAL

Highlighting one prisoner's plight can touch the world's conscience

Newspapers in Bavaria carried a black-bordered announcement on 24 August 1972: "We, together with Senhor Daniel Cabrita, who is currently being held in a Lisbon prison because of his trade union activities, and his daughter Catarina Cabrita, would like to announce our grief at the death of Helena Rita Pereira Cabrita who committed suicide at the age of 32 as a result of depression following the persecution of her husband. We will continue to support Senhor Cabrita and his daughter. Amnesty International Group 23 — Freising."

This announcement is only one of the duties that Amnesty International's London headquarters has imposed upon its branches. "Every Amnesty group adopts three persons imprisoned in contravention of the principles of the general declaration of human rights," the handbook for the four hundred branches in the Federal Republic states. "Each group is responsible for seeing that everything humanly possible is done to help these people."

Amnesty International was founded in 1961, the brainchild of Peter Benenson, a British lawyer. Benenson had read a newspaper article about the thousands of forgotten prisoners, even in those countries that had solemnly sworn to uphold the principles contained in the general declaration of human rights.

Today, eleven years after the foundation of Amnesty International, it seems as if there are more people than ever kept in prison without proper trial, tortured or killed for taking advantage of their basic human rights.

Sean McBride, the present chairman of Amnesty International and a former foreign minister complained about the escalation of violence and cruelty at the 1972 annual assembly in Utrecht.

He claimed that a growing barbarity could be observed within legal systems throughout the world as a result of the decline of public and personal morals.

Amnesty International estimates that between one hundred thousand and two hundred thousand are being kept in underground prisons and concentration camps in South Vietnam.

Nine hundred political prisoners have been condemned by military courts in Turkey. Ten thousand prisoners are being kept in camps in Sri Lanka (formerly Ceylon). Seventy thousand are reported interned on islands off the Tunisian coast.

Amnesty International has listed the names of three hundred prisoners kept in Russian jails. The organisation has adopted them as it must be assumed that they are being kept in prison in contravention of the general declaration of human rights.

Tens of thousand of prisoners are being held in Indonesia, thousands in Brazil, South Africa, Uganda, Pakistan and many other countries. The organisation, always intent on maintaining neutrality, has no difficulty in giving each of its branches a prisoner from the West, one from the East and one from a neutral country to adopt.

Figures of this magnitude tend to make people forget the personal misery that is involved. Repeated appeals to remember the fates of millions of innocent prisoners have no effect.

Amnesty International therefore deals with the fates of individual prisoners, it tries to help them and draw public attention to them.

Group 294 in Munich has adopted Stephen Hayes, a 32-year-old Anglican priest who was sentenced to five years' house arrest near Durban in July 1972.

Hayes, an opponent of apartheid, took the part of the Africans in Nambia, the former German South West Africa now administered by the Republic of South Africa.

Since then Hayes has not been allowed to continue his work, write articles for publication or appear at public meetings. His post is also being controlled. But no proper verdict has been passed on him.

Andrei Alexeyevich Amalrik is the best known of the prisoners adopted by groups in Munich, After previous banishment in 1965 Amalrik, a Moscow historian, was arrested again in May 1970 and sentenced to three years in a work camp because of his essay *Will the Soviet Union last until 1984?*

Amalrik contracted meningitis in Novosibirsk and spent eighteen months in poor health at the Talaya camp in Eastern Siberia. He spent much of this period in the camp hospital where he refused to accept drugs.

Francisco Izuel Vazquez was born in La Coruna, Spain, on 10 July 1943. He has spent eight of his thirty years in prison because he refused military service on the grounds that he was a Jehovah's Witness.

He faces another six years' imprisonment before he becomes 36 — the age at which he will first be ineligible for military service. He may even have to stay in jail for another eight years if the last two years of his final four-year sentence are not waived.

Group 54 in Munich is taking steps to enable him to obtain regular dental treatment in Cadiz as he is suffering great pain and the Castillio de Santa Catalina military prison has no such facilities.

The Spanish military courts realise it is useless to draft Jehovah's Witnesses and would prefer not to try but they are bound by the law. An amendment to the current conscription laws proposing a form of non-military national service as a substitute has twice failed in the Cortes as it went too far for one group and did not go far enough for another. Generalissimo Franco has so far shown no interest in issuing a decree to resolve the matter.

Group 54 has also adopted Petr Uhl, the engineer who was the main defendant at the Trotsky trial in Prague and was sentenced to four years' imprisonment in March 1971. He is only one of the group still left in prison.

Group 35 has taken over the case of 28-year-old Kyriakos Tsolakidis who was sentenced to seven years for distributing pamphlets at a demonstration in Greece. The court ruled that it was Communist propaganda and therefore illegal.

His brother and sister also received a twenty-year prison sentence though Amnesty International does not believe that any of the three called for a policy of violence. Two British branches have already dealt with the case, though with no success.

Group 76 has adopted another Greek prisoner, Felias Athanassios, and Viktor Fainberg, the Russian writer and art critic. Fainberg is currently in a sanatorium in Leningrad awaiting trial now that a psychiatric commission has ruled that he does not need mental treatment.

Christian Schütze

(Süddeutsche Zeitung, 23 November 1972)

■ THE ECONOMY

Audit Office watches over ministerial spending

Each year the Federal Audit Office takes a sharp pencil and writes out a list of ministers and ministries that have been too ready to get out the cheque book and spend the public's money. The report for 1970 is just out and shows that it often depends on the mood of the minister in question whether the amount specified by the budget-makers in Bonn is adhered to.

Certain ministers have developed a perfect technique of not reacting to the chastising of the Audit Office at all, only doing so reluctantly or only reacting after several warnings have landed in their lap.

In the latest report Hans-Dieter Genscher (FDP), the Minister of the Interior in the last government, and the supremo with regard to the building of the Olympic stadium in Munich, has been given a lot of stick for the extravagance of the Oberwiesenfeld development.

Severe doubts are harboured by the Audit Office about the activities of the government and the Olympic construction company, and whether those who acted on behalf of the government showed sufficient care for the nation's financial interests. However, the fact that this gigantic complex was raised from the dust under severe pressure of time has not been overlooked by the Audit Office examiner and is taken as a mitigating factor.

Much sterner criticism is levelled at the Olympic Organising Committee for failing to demand a fee from Federal Republic television stations for covering the Games. Instead the broadcasting companies were expected to organise the equipment for covering the Games and make available to the OOC sound and picture in a form that could be beamed all over the world at the expense of the TV stations.

But this excuse falls flat when it is remembered that the OOC provided a large part of TV stations costs from lottery receipts and thus, the Audit Office said, allowed a large amount of revenue to go begging.

The Audit Office found another example of the way the OOC had been truly careless with the money expected to come in. The Committee decided to negotiate for fees for transmission of the Games abroad in foreign currencies instead of in Marks. Thus, when the Mark was revalued in 1969 the OOC lost 4,500,000 Marks overnight.

An association subordinated to the Ministry of the Interior indulged in another extravagance that set the boys at the Audit Office writing out more complaints – a "working dinner" with a divisional head of the ministry. Two people were present at this meal, which cost the princely sum of 128 Marks 50 Pfennigs. The Audit Office deemed this "unnecessary expenditure".

The Transport Minister does not escape attack either. During preparatory work on the diversion of the River Main between Offenbach and Grosskrotzenburg the Würzburg Shipping and Inland Waterways Commission erected accommodation for the surveyors and senior building workers which finally cost 30,000 Marks. The Audit Office considers this sum inappropriate. This accommodation on site has not in fact been used by the people for whom it was intended at all and three rooms have so far remained completely empty.

At the Defence Ministry the Audit Office went to town, taking stock of in-comings and out-goings in many departments. For instance the department responsible for ordering spare parts was put under the microscope. Their conclusion was that much equipment sent for expensive repairs was costing more than it should. The remedy was not to be found in cheaper repairs but in ordering equipment in the first place that needed fewer repairs and that was easier to repair, in other words prevention rather than cure.

As far as the Ministry of Economic Cooperation was concerned the Audit Office was dissatisfied with many of the development aid schemes undertaken. As regards the recruitment of aid workers and the guarantee of their safety there are agreements in international law as well as so-called project agreements between the Federal Development Aid Society and agencies in the countries receiving aid. But the Federal Audit Office discovered that in a number of cases the essential safeguards had not been implemented, for instance in Cameroun, Thailand, India and Upper Volta.

The Office also feels that in many cases the right aid worker is not being sent to the right country. For instance when an extension to the grid was required at the government centre in Katmandu, instead of the electrical installer who was needed for the job an engineer was sent, and when he arrived he realised he was not sufficiently trained to carry out the work.

Many of the provisional findings of the Audit Office have been noted and sent to the heads of the ministries involved on numerous occasions. Despite the repeated requests that improvements should be made to avoid unnecessary expenditure the ministries are obviously too hidebound or the ministers too disinterested to make the recommended changes.

Thus it is somewhat hard to understand the statement put out by the Audit Office President Dr Hans Schäfer that "by and large the verdict on public administrative bodies must be fairly positive". At the selfsame press conference he said: "In many cases we pulled our punches and could have been more critical."

Katharina Olbertz

(Handelsblatt, 30 November 1972)

Five Wise Men's annual report

Süddeutsche Zeitung

Bonn sources have stated that the country can only expect a 'mini' statement of government policy before Christmas with no detailed concept of how to restore currency stability and little in the way of an immediate policy for industry and the economy.

Not till the end of January will there be a far-reaching plan of forthcoming economic and finance policies. And not till then will there be a clear indication whether the situation report of the committee of experts for the national economy – a report stretching to 300 typewritten pages which is now before the government – can be taken as a basis for practical policies.

The Five Wise Men have called for effective measures to protect the foreign trade flank against imported inflation. This means that if necessary further dirigistic measures will be implemented in the fields of foreign exchange and alterations to parity. The last resort, which cannot be ruled out, would be a national go-it-alone policy for monetary matters.

Another elementary component of a policy for stability, according to the Five, would be "an exemplary attitude of restraint by the exchequer with regard to civil-service salaries."

The Union of Public Service, Traffic and Transport Workers is prepared to take strike action, its Chairman Heinz Kluncker has stated, if it cannot push through its demands in any other way.

A key role will be played by finance policy. The committee of experts agrees with Helmut Schmidt that tax increases will be unavoidable next year, opposing the attitude adopted by the FDP.

One question that remains unanswered is whether revenue from tax increases will be frozen and not used for further public expenditure, as the Five Wise Men have demanded. The scientific nature of their annual report should not lead to prejudiced views about the practical value of their painstaking work. The report does provide an invaluable yardstick by which to measure how far the compromises of political practice diverge from the tenets of science and logic.

(Süddeutsche Zeitung, 28 November 1972)

New legislation to curb industrial crime

The fight against industrial crime will be emphasised when criminal law reform is taken up anew in the seventh Bundestag legislative period. A committee of experts has been working for some months on behalf of the Federal Ministry of Justice on plans for the reform of regulations dealing with industrial crime, and closely connected with this new legislation there will be new measures to protect the consumer and strengthen his bargaining position on the market.

In recent weeks for example a working group has been set up to look into the possibilities of an improvement in the legal protection of the consumer in general business dealings.

Federal Minister of Justice Gerhard Jahn called this commission in conjunction with Economic Affairs and Finance Minister Helmut Schmidt and their colleagues in Federal state governments.

In this study group apart from representatives of the ministries affected in Bonn and the Federal states there will be scientists, lawyers and representatives of industry, commerce and the consumer's study group. Its job will include testing the possibilities of "changes to the Civil Code to make this fairer for all".

A Bill that has been before the Bundesrat for a short while also serves in the fight against industrial crime and the planned improvement of consumer protection. This Bill provides for an amendment of the Industrial Code and the setting up of a Central Industrial Register.

According to the projected amendments violations of the Industrial Code shall by and large be treated, in accordance with the decisions taken on penal reform, as irregularities from 1 January 1974 and it shall be the responsibility of the administrative authorities to detect them and prosecute.

Violations of licensing and permit laws, contraventions of injunctions preventing industrial practice and the non-completion of obligatory stipulations and orders shall be treated as offences if they endanger the life or health of others or propery of considerable value, or if the offence is less serious but repeated.

Irregularities shall not be entered in the Central Criminal Register and so the creation of a Central Industrial Register similar to the black book of traffic offenders in Flensburg appears to be essential.

If there is no such documentation of irregularities it will be impossible in many cases to judge the case for and against the withdrawal of a permit or place a ban on the practice of industrial business. It is planned to place the Central Industrial Register in the hands of the National Registration Authorities in Berlin.

Central registration of offences and decisions taken by the authorities will provide the relevant bodies with the material they need to take the required action against those who are running businesses illegally. This will be a decisive contribution to the fight against industrial crime.

The Bill at present before the Bundesrat requires complementing by the Bill, yet to the introduced, to improve the procedure for banning certain persons from running a business. The preparatory work for this Bill came to a dead stop with the sudden end of the sixth legislative period.

It is hoped that future legislation will prevent the running of a business according to Paragraph 35 of the Industrial Code if the company manager is felt to be incompetent, a judgment that shall be made if the running of the company is detrimental to the public at large or the people employed in the company.

Furthermore the new legislation shall prevent a banned company manager from opening a business in a similar branch of the economy, or as a last resort shall ban a person from running any kind of business. This is to prevent shady operators who have had the ground cut from under them in one line of business opening up shop in another.

Present legislation, dating from 1960, has proved to be unsatisfactory. It works on the assumption that the power of the authorities to prevent undesirables operating in business should be kept within strictly confined limits. In other words the interests of businessmen are given precedence over those of the consumer.

In the spring of 1972 when the government first published its Bill for the amendment of this legislation it stated: "A quite considerable number of businessmen have utilised the weakness of previous legislation in order to gain an advantage over the general public. It is essential to redress the balance and create a situation that favours neither side."

(Süddeutsche Zeitung, 23 November 1972)

Bank Rate up

Neue Hannoversche Presse

The Central Bank Committee of the Bundesbank raised Bank Rate by one half of one per cent to 4.5 per cent on 30 November. Lombard Rate went up from six to 6.5 per cent. This action, bank President Karl Klasen stressed, was designed to cut the demand for credit which was stoking the fires of inflation.

The associations of banks and savings banks in the Federal Republic followed the Bundesbank announcement with a statement that rates of interest on savings accounts would be increased by a half per-cent on 1 January 1973.

On the same day France increased its Bank Rate by a full per-cent to 7.5 per cent. This makes France and Britain the countries with the highest bank rates in Europe.

(Neue Hannoversche Presse, 1 December 1972)

■ INDUSTRY

North Sea oil – a card in the game

Frankfurter Allgemeine

Peace in the oil world seems to have been restored. This forecast come as a result of the recently concluded agreement with the most important oil-producing Opec countries, whereby their holdings in the oil companies that work in their territory will increase gradually over the next ten years to 51 per cent.

There are some experts, however, who are not so confident that this peace has a solid basis. They point to the chain of crises that have occurred in the years since the War and repeatedly undermined the certainty of vital oil coming to the Western world.

In 1952 there was the nationalisation of the Persian oil wells, in 1956 the threatened boycott of the Arab countries during the Suez crisis, in 1967 the Six-Day War and the closure of the Suez Canal and last year the long and arduous Teheran and Tripoli negotiations which led to an agreement for the continued supply of oil, but at much higher prices. And this year oil companies have had to promise the governments of Opec countries larger national participation in the drilling companies.

The $64,000 question is: when will the next crisis be. Probably 1975, when the Teheran and Tripoli agreements run out and the next round of price negotiations gets under way. At any rate the oil companies operating the North Sea concessions seem to be sceptical, despite all the expressions of good will by the Arabs.

How else can one explain the fact that practically all major oil companies, including those who are having to sell off excess crude oil because they have insufficient plant for processing it, are frantically drilling for oil in the tempestuous waters of the North Sea? Drilling, it might be added, for supplies of oil estimated at only 1,500 million tons – about three-fifths of the amount consumed throughout the world in just one year.

The sure supplies in the world at the moment amount to something like 85,000 million tons and year in, year out new supplies are found. The amount brought up from the underground caverns where it forms is still less each year than the new fields discovered. 45 milliard tons are to be found in those countries alone that are now calling for greater shares in the oil companies. Soviet calculations estimate that the total amount of so-far undiscovered oil on Earth is something in the region of one million million tons.

Nevertheless international oil companies have so far invested three thousand million Marks in about 380 drilling sites in the North Sea. It costs about ten times as much to drill in the North Sea, owing to geological and climatic conditions, than it does to make conventional borings in the Middle East, which is still the main supplier to the West.

Britain's BP, one of the companies that has a surplus of crude oil plans to spend no less than three milliard Marks in the next few years drilling on the English Shelf for supplies of 12.5 million tons per annum by 1975 and later twenty million tons, all right on Britain's doorstep.

However great these figures may sound they are not really so startling when one considers the amount of oil required by the Western European industrialised nations. Experts estimate that in 1980 170 million tons of crude oil will be brought up from the North Sea. Another thirty million tons will be drilled on the European mainland. Yet this home-produced supply of oil will be only twenty per cent of the milliard tons it is estimated will be required by Western Europe. So home-grown oil is insufficient to guarantee the amounts required.

In the industry it is argued that industrialised countries must take advantage of every opportunity of keeping a dead pledge against excessive attempts at extortion by oil-rich countries in the Middle East. This is an argumentation that must be listened to seriously, even though it reveals no great faith in the recently concluded agreement.

Moreover with no worldwide crisis threatening supplies of oil it has always been possible to buy oil even if the price has sometimes been inflated.

Even if the question of prices is overlooked the supplies available in the North Sea can at best be regarded as "iron rations" to bridge the gap for oil-hungry industrial nations temporarily. According to present-day estimates the supplies that can be obtained from the North Sea will not last for more than eighteen months.

If we take into account the great length of time that will elapse before the North-Sea oil-wells are producing at top capacity we can see that the supply of oil on our doorstep could make up for a stoppage to supplies from Arab countries for about twelve months by the beginning of the eighties.

And it is not only European companies that are drilling for oil in European waters. The lion's share of the concessions have been taken out by the Seven Sisters, the seven largest oil companies, of which five are American.

What their attitude will be when the "energy gap" that is being forecast for the United States comes about no one can say today.

In the next ten years it is expected that the United States will have to spend ten milliard dollars a year for imports of fuel and power supplies because it is unable to produce all the supplies of energy it uses up.

Even if the Americans leave the oil their companies have drawn up from North Sea in Europe it is not yet certain that the whole of Europe will reap the benefit of this fuel.

Norway, for example, has already secured for itself a share of 25 per cent in the Ekofisk fields on its own continental shelf. In Britain the British Gas Council has laid claim to all supplies of gas found on the fields around the British Isles. It would be a simple piece of legislation to extend these provisions to oil as well.

Fernande Spaak, son of the late, great European Paul Henri Spaak, once called the oil in the North Sea "Community oil", but he was quickly corrected by representatives of those countries bordering on the North Sea that do not belong to the EEC.

There is of course the OECD oil advisory committee, which can in extreme cases make decisions about supplies of fuel and power. But no one knows at present how effective these would be in practice.

During the 1967 Suez blow-up Europe could hardly be said to have been a model of unity. The Federal Republic adhered to its liberal economic policy and in the interests of ensuring constant supplies allowed prices to rise higher than they were in neighbouring countries. As a result oil companies were happier to supply to the Federal Republic at that time – while France and Britain suffered from shortages.

North-Sea oil is certainly a card in the international game of poker between oil producers and oil consumers, even if it is not an ace. No one can tell how strong this card will prove when the chips are down.

Wolfgang Müller-Haeseler

(Frankfurter Allgemeine Zeitung für Deutschland, 24 November 1972)

Petrochemicals companies must cooperate

European petrochemicals companies should be given a chance to find their own way out of the present crisis under their own steam. The best way to escape from the dilemma of excessive and unwanted production capacities is, as the executive manager of Erdölchemie, Cologne, Dr Kurt Wilhelm Schneider, said, a system of investment projects in which all producers in the European Economic Community would take part.

Speaking at a meeting of the Research Institute for Economic Statutes and Fair Competition in Cologne Dr Schneider stated that such a system of projects would make the market much more transparent.

All producers on a national level would be expected at the outset to state to their industrial associations the most important production and investment data as well as export and import figures.

National industrial associations would in turn be expected to pass this information on to a European level where the in-coming data would be evaluated. "Taking this data as a basis," the spokesman for the petrochemicals industry said, "bilateral and trilateral agreements would have to be reached on future investment decisions."

If this system proved to be ineffectual the old taboos about setting up an investment cartel would have to be swept aside.

Stopping the "ruinous competition" in the petrochemicals industry, we hear, has become an even more difficult problem to solve in recent times, particularly since the optimum size of factories is a figure that is increasing all the time. In order to make the most of all opportunities for cutting costs petrochemicals firms are being forced to build plant with an annual capacity of between 250,000 and 350,000 tons. Factories of this size cost about 250 million Marks at today's prices. Ten years ago a fraction of this sum would have sufficed.

According to Dr Schneider the demand for petrochemical products will rise by about six million tons by 1980. It will be necessary to build seventeen new large factories to cope with this increase.

It is on the construction of these factories that agreement must be reached. One of the main points to be cleared up is the fixing of where the regional emphasis is to be laid (and this will transcend national borders). The chronology of the building work must also be agreed upon.

Since the construction of plant takes between four and six years an agreement along these lines would affect business on the petrochemicals front for a long term. These effects of the system of "announcements" were pointed out by Professor Hellmuth Seidenfus, from the University of Münster.

Professor Seidenfus feels that a greater transparency of the market together with greater cooperation or mergers of companies would be a suitable way of rationalising market structures in the long term. But, he said, voluntary investment project schemes were often only the first step along the road to a genuine investment cartel.

But agreements of this kind, according to Professor Seidenfus, are not able to clear away all the evils of excessive production capacities. In the long run investment cartels are most likely to provoke State intervention, for "one cannot imagine the State sitting by and watching as whole branches of the economy are dragged along in the wake of such a cartel. Entrepreneurs who do not wish to shoulder the risk of the investments they make are not worthy of the name entrepreneur.".

(Kieler Nachrichten, 29 November 1972)

A step forward for mineral mining on the seabed

Mining in the traditional sense is losing importance all the time in the Federal Republic, but at the same time a new line of business for miners is flourishing – the extraction of important minerals from the ocean floor. It has been planned to sign an agreement on an undersea mining consortium early in December this year in which the nationalised Salzgitter AG will be participating. It will be the task of this consortium to draw up a report on the possibilities of mining large quantities of manganese 4,000 to 6,000 metres down in the Pacific.

Bonn has urged that this consortium be set up and has offered to pay in advance half the estimated costs of the work involved. This work will be part of the second general programme of undersea research and technology 1972 to 1973.

Professor H. Haferkamp, head of the Department of Research and Development at Salzgitter, said that the following aspects of undersea technology were important to his company: plant construction, system technology, material technology, metallurgical processes, the construction of ships and work platforms, drilling and transportation techniques, machinery construction and trade in metals.

The general theme is mining of minerals from the seabed without political conflicts arising. Already about twenty per cent of our requirements of oil and natural gas are obtained underwater at depths of up to 200 metres. In recent times a new process has been tried out involving mining at a depth of 350 metres, 200 kilometres from the coast.

The study in German of methods of mining these minerals should be ready in two years and in the meantime several voyages of exploration are required. An initial exploratory trip to the Pacific deduced that there are extensive fields of manganese in the Pacific and that the supplies are highly concentrated.

At depths of about 5,000 metres the "hills" of mineral substances are 23 to 25.5 per cent manganese, one to 1.4 per cent nickel, 0.9 to 1.4 per cent copper, 0.2 per cent cobalt and seven to ten per cent iron ore.

In the United States it is reckoned that by the eighties about twenty per cent of America's requirements of metals, and by 2000 half these requirements, will be met by mining under the seas.

(Frankfurter Rundschau, 1 December 1972)

■ SCIENCE

Eifel radiotelescope sheds light on pulsar phenomenon

Radioastronomers in this country are currently cock-a-hoop. The new Effelsberg radiotelescope has yielded initial results that go beyond the wildest dreams of the Bonn boffins.

The prospects of progress into spheres of astronomical observation hitherto considered to be unattainable are felt to be good.

Professor Richard Wielebinski and his staff at the Bonn Max Planck Institute of Radioastronomy have already arrived at a solution to a problem that has troubled astronomers for some time – whether the phenomena known as pulsars subdivide into various categories.

His research team have discovered that the various forms of radio wave impulses emitted by these strange heavenly bodies reflect a fine texture of the pulsars that has yet to be recognised for what it is.

The differences, then, form part of the pulsars' "knitting pattern" but there are no fundamental differences between the various pulsars. Detailed interpretation of the patterns is going to cause theoreticians something of a headache, though, Professor Wielebinski adds.

Pulsars are strange heavenly bodies discovered five years ago that emit very short radio waves at intervals of seconds. So far nearly a hundred of them have been located. In one case the radio signal has proved to come from the same source as an intermittent flash observable by means of optical telescopes.

General agreement has meanwhile been reached that pulsars are neutron stars, lumps of extraordinarily dense matter, a thimbleful of which would weigh ten to 100 million tons on Earth.

These otherwise seemingly dead stars emit a closely bundled ray of energy at one point. It is only perceived intermittently on Earth because neutron stars rotate fast and the ray is seen or registered like the flashing of a lighthouse.

Radioastronomers are not even agreed whether the light impulse is emitted from the star's surface or above it by means of continual conversion of magnetic energy into an electromagnetic wave beamed outwards.

At all events the source must be a geographical pinpoint possibly only a few kilometres in diameter.

In order to solve the puzzle of how pulsars generate this formidable power attempts were soon made to analyse the pattern of impulse. It looked as though there were various types of pulsars, ones that emitted double impulses, ones that emitted single impulses and others that emitted more complicated patterns. After only twenty hours observation Professor Wielebinsky and his colleagues at the Max Planck Institute of Radioastronomy have come to the conclusion that all the impulses are extremely complicated in structure and that no differentiation can be made between various categories. This of course means that the energy source must be an extremely complicated phenomenon, individual components in the pattern boasting a far greater energy density than has hitherto been supposed. It was hard enough to grasp the previously assumed density in terms of conventional physics as it was, but the latest results will certainly reactivate the pulsar radiation mechanism debate. Final clarification ought to be a fair-sized step nearer.

Following initial teething trouble work at the new radiotelescope began this summer. Thirty-five observation programmes are now in progress.

In addition to a receiver in the eleven-centimetre frequency a second receiver for 2,8 centimetres has been taken into operation. Six pulsars in this extremely short wavelength have already been located – a surprising number for the specialist!

The Effelsberg radiotelescope is the largest of its kind in the world. Its reflector bowl is 100 metres (328.1 feet) in diameter. By concentrating on narrow wavelengths shorter frequencies can now be scanned.

Resolving power has been considerably boosted. The newly designed reflector improves focusing power. Effelsberg seems likely to sire further major astronomic discoveries in the years to come.

(Frankfurter Rundschau, 24 November 1972)

Electron microscope

Under this new electron microscope, Elmiskop 102 developed by Siemens from a preceding model, an object appears four and a half million times its original size. A woman's hair with a diameter of three hundredths of a millimeter would be much too thick for maximum magnification, for when viewed under the microscope it would have become almost 140 meters thick. The image is produced by an electron beam, accelerated with 125,000 volts. The maximum magnification achieved by this electron-optical method is 500,000 times the original size and can be increased again nine-fold by using a double (binocular) magnifier, or even forty-fold by means of additional photographic enlargement – giving a total possible magnification of 20 million times the original. However, it is not the magnification which is a criterion of the performance of an electron microscope but the resolving power, that is the ability to give a seperate representation of two points which lie very close together. With the new Elmiskop, points lying only 0.3 millionths of a millimeter apart can be represented singly.

(Photo: Siemens)

Hormone deficiency killed off the dinosaurs!

No one has ever seen a living dinosaur, palaeontologists have to reconstruct their size, shape, habits and habitat by inference. Detailed information about the life and times of the dinosaurs now provide a possible explanation for their disappearance 65 million years ago.

Two theories to account for their sudden extinction have recently been postulated. One relates to body temperature, the other to hormone changes.

Anatomical similarities between dinosaurs and birds or mammals have led a number of scientists to suspect that they were warm-blooded reptiles. Present-day reptiles are all cold-blooded.

In a recent issue of *Nature* magazine Robert T. Bakker of Harvard Museum of Comparative Zoology combines the results of anatomical and environmental research, reaching the conclusion that dinosaurs were, in all probability, warm-blooded.

Fossilised imprints of dinosaur skin indicate that these monsters of prehistory were hairless. Bakker concludes that their extinction could be accounted for by the combination of size, warm blood and naked skin.

Sixty-five million years ago the temperature in the regions they frequented dropped abruptly. Bakker feels that the dinosaurs' skin gave off too much heat and they died of cold.

Evidence from the South of France would seem, however, to indicate that in South-Western Europe dinosaurs underwent hormone changes that affected procreation. Bonn University researchers have in recent years found fragments of dinosaur eggs in four superimposed rock strata in Provence.

In the lower strata eggshells were a good two millimetres thick. They grew thinner and thinner up to a point where they must have been extremely fragile.

Bonn palaeontologists have now found a further set of dinosaur eggs near Corbieres in the French Pyrenees. They date back to the most recent period of Provence eggshells and must have been equally fragile. Researchers reckon that the eggs must have cracked before the embryo was fully developed.

Thinner eggshells could well have been a consequence of hormone changes possible occasioned by overpopulation. It remains to be seen, however, whether this phenomenon accounts for the extinction of dinosaurs all over the world.

Louise Purrett

(Neue Ruhr Zeitung, 18 November 1972)

Experts demand more cash for oceanology

The Federal government's second oceanological research and technology programme provides for 700 million Marks worth of expenditure by 1975, but this, to judge by talks in Düsseldorf, is by no means enough for specialists in the field.

Domestic industry, it is noted, as yet plays next to no part in the exploitation of the North Sea, even though the North Sea will, over the next few years, be a centre of oceanological activity comparable at present only with the Caribbean.

By the eighties 15,000 to 20,000 million Marks will have been ploughed into oil and natural gas prospecting and exploitation.

Active participants in projects of this kind, and they only, experts emphasise, will stand a chance of making money by delivering the goods.

This is why industry in this country plans to adopt a more active approach in time for Interocean 73, the second international congress and exhibition of ocean research and development to be held in Düsseldorf in a year's time.

It is also hoped that the government will underwrite research, the risk being too great for most medium-sized firms. All major relevant equipment so far manufactured in this country has by and large been the result of foreign know-how or indeed modelled on foreign blueprints.

The time is ripe for a change in this respect because a modest investment in specialised sectors could still yield a rich dividend.

The detailed proposals made by industry are that the government subsidise to the tune of half a million Marks up to five different research programmes conducted by teams of three to five engineers and technicians at institutes of technology and the like in the hope of notching up one or two full-scale successes.

Large-scale technical apparatus for international use could then be built provided the government underwrote, say, 600 million Marks' worth of development work. Teething troubles, it is noted, cost a good deal more than pure research.

The lobby is mobilising slogans such as "Space research leaves Davy Jones to his own devices" and "The Germans are still engaged in pre-war research spheres – locomotives, ships and electric motors – rather than atomic energy, electronics and jets."

The aim remains to convince the men who control the nation's purse strings that ocean research and development – seabed mining, for instance, – still stands to net small substantial successes.

Arnulf Schöbitz

(Frankfurter Rundschau, 28 November 1972)

Geologists evaluate satellite pictures of the Earth

Research scientists at the Federal Soil Research Institute in Hanover and a further eight university departments and research institutes in this country have embarked on evaluation of aerial photos taken by the Nasa Erts 1 satellite.

The first photos taken by the satellite, which was launched on 23 July 1972 and is orbiting the Earth at an altitude of 500 miles, have now reached their destinations in this country.

For the Federal Republic Dr Dieter Bannert, a biologist at the Hanover Soil Research Institute, is responsible for the selection of regions included by Nasa in the Erts research programme.

The target of the programme is to gain additional information about geological structures, ore and oil strata, quake-prone areas, environmental pollution, forestry and sand movements in coastal regions.

(Hannoversche Allgemeine, 4 November 1972)



THEATRE

Hübner bows out with *Troilus and Cressida*

This Shakespeare production by Kurt Hübner was probably his last before the season ends and he takes up his new post as theatre manager at the Berlin Volksbühne. Early in the new year he will be directing in Düsseldorf and thereafter there will be little time left for Bremen, since the Theater am Goetheplatz will end its season early, packing up in May to allow rebuilding work to commence.

This is reason enough to take a good look at this production of *Troilus and Cressida* for Hübner is the developer of the so-called Bremen Style among young directors, a style that has been seen above all in his productions of Shakespeare.

Troilus and Cressida had been performed many times since 1945, unmasking war in all its destructiveness and ruthlessness. The characters of the Iliad made famous by Homer are taken by Shakespeare and with few exceptions portrayed with satirical sharpness and fearsome gaiety in the parody as worthless wretches.

This is a method that incites the audience to laughter but at the same time arouses feelings of bitterness, for there is little doubt that the action set in the Greek camp towards the end of the Trojan War is a tragedy.

The Hübner production takes full advantage of this apparently paradoxical structure which creates amusement among the audience while at the same time hitting home with a forceful message. He enjoyed himself portraying decadence, particularly on the part of the Greeks, and delivering this up to ridicule.

The characters of Achilles and his friend Patroclus as well as Agamemnon (wearing glasses), Menelaeus and Pandarus come off particularly well in this respect and in the hands of Hübner are reminiscent of Daumier's caricatures.

With this background the two main characters stood out as being all the more credible. Hübner portrayed the tragic destructive powers of war so well with their fates as a basis — the closeness of the lovers is all more touching, being set amid such squalor that their separation becomes the dramatic highspot of the evening.

As a result Cressida, brought in exchange to the Greek camp, was not the light-headed girl who turns into a whore. The eye's confusion becomes the confusion of the soul. What is obviously an irreversible process of natural laws taking their course gets under way.

However broadly the scenes with the besiegers and the besieged are drawn, and sometimes it is too broadly, it was Troilus and Cressida that were the moving centre point of the evening.

Text important

Work on the text has always been important to Hübner in his directing and the same applied to this production, for which he took the translation by Graf Baudissin.

Hermann Faltis played the matchmaking Pandarus and Rolf Becker was Thersites. Whatever could have been achieved by language in the way of atmosphere and of life and world itself was created by them in a fascinating manner.

In his role as the dark-skinned cripple there was something macabre about Becker. In the way he moved about the stage before he had even spoken a line he seemed to be throwing at the public the

Hannoversche Allgemeine

challenge: Just look what this war has made of me, of a human being.

And when he spoke his words were arrows, boring through everyone. As a commentator he was critical, filled with gall, he was a downcast observer of the action and at the end he was a sage with the mannerisms of a fool.

With Peter Höner as Troilus and Sonja Mustoff as Cressida one could believe the passion and the genuineness of their love, both in the scene where they are slowly discovering each other as in the scene where they are separated.

Among the other cast members worthy of a mention are Manfred Trabant as the intellectually cool Odysseus, the athletically-dumb-proud Ajax of Konrad Materna and the super-smart pair Achilles/Patroclus of Joscha Fischer-Antze and Wilfried Grimpe.

Stage design was by Wilfried Minks. It shows a spacious square in front of a Trojan temple and is quickly turned into the Greek camp by tents. With an intermediate curtain, the colour of sacking, and with peepholes the more intimate scenes are created.

Costumes were designed by Wilfried Minks in conjunction with Dagmar Schauberger and for the most part they were unambitious. Homer's heroes were in the main content with a sparse pinafore and a certain amount of jewellery. Patroclus' shimmering back was an outstanding feature. But there were characters wearing comparatively rich costumes.

It was quite late when the curtain finally came down, but the audience at the premiere showed no signs of flagging. The applause was quite appreciative and those members of the audience who had enjoyed the performance were not put off by a few catcalls.

Rudolf Lange

(Hannoversche Allgemeine, 20 November 1972)



A scene from the Bremen production of *Troilus and Cressida* with Konrad Materna as Ajax, Rolf Becker as Thersites, Joscha Fischer Antze as Achilles and Wilfried Grimpe as Patroclus (Photo: Metro)

Botho Strauss puzzle play is totally puzzling

Botho Strauss, born 1944, theatre critic, journalist and since 1970 dramatic adviser to Berlin's Schaubühne has written a puzzle-play, *The Hypochondriac*. At its premiere in Hamburg's Deutsches Schauspielhaus it was as expected a cause of bewilderment to the audience.

Towards the end there was ironic laughter from the gallery and mad wags jumped in with ad lib dialogue or their own:

JAKOB (on stage): Don't worry, my Nelly, it'll all be over soon.

VOICE FROM THE STALLS: Thank God!

There were boos all round for the playwright who did not venture on to the stage and unjustly for the director Claus Peymann, who did a great job. But the audience did applaud some excellent acting — Andrea Jonasson, very convincing in the difficult role of Nelly and Fritz Lichtenhahn, who gamely battled his way through the diverse dual roles of Vlademir and Jakob. The author gave himself a difficult job when he undertook to write this play, which should not be viewed as an anti-ideological running amok of a lot of crazy people, and which one could praise or condemn according to one's political views. In fact the play goes a long way, too far perhaps. In the advertising prospectus it is stated that *Der Hypochonder* is a play on four levels — four plays within one. According to this view, which is not far off the mark, the play is a crime thriller, a burlesque, a story of sickness and a love story. And the hypochondria that permeates all sciences is explained as "that strange sickness, whose main symptom is that there is no sickness, a sickness that only healthy people suffer from. It is a sickness of the imagination ..."



A scene from Botho Strauss' *The Hypochondriac* (Photo: Rosemarie Clausen)

Aha, one thinks, the playwright is going to take these sick or sickly powers of the imagination to spin the threads of his plot, linking them together or hiding the one aspect of the play inside the next rather like a Japanese doll, so that in the end *Angst* and the offshoots of *Angst* can be spirited away, d[illegible]ing in comical laughter.

This scheme has forerunners and notable ones at that, from Molière to Nestroy and Ionesco. A well-read playwright knows them. He also knows Ivan Goll. He knows how poetically in Georg Büchner's *Leonce and Lena* in Schehadé's *Die Geschichte von Vasco* and Dylan Thomas' *Under Milkwood*: the Surrealistic scene has come to life.

It is these examples and quotations from hypochondria (all mentioned in the advertising splurge) that pose the main danger. The playwright has chosen a popular framework for the puzzle-play, which is designed to hold the whole together: Belle Epoque, the Makart Era.

With a splendid salon (Scene: Amsterdam 1901) Erich Wonder filled in this scene. Behind the dialogue the colony of Batavia appears. The talk is of the Boer War. The action of the play itself cannot be set out clearly, since it is acted out by hypochondriacs.

A chemist is supposed to have been murdered, Two, three, four further murders follow this. A murder comedy, then? Not exactly. Because there is always the anxiety in the air which is not solely the preserve of hypochondriacs. Fear of life.

At times Botho Strauss hops gracefully over the hurdles of alienation and procrastination, which are thrown up often quite wittily. For a time the audience feels it is being quite pleasantly entertained, with borrowings from Karl Valentin, Charlie Chaplin, Charlie Rivel and Laurel and Hardy.

One laughs when revolver bullets miss the intended human victim and hit the aquarium and we hear: "Have you no heart for the poor fishes?"

Soon, however, one becomes tired of the joke of these repeated jokes. There is no tension. One senses here that when a dramatic adviser writes a play it is similar to a piece of music bashed out by a bandleader. In the past such plays have

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THE ARTS

American photographic realism at Stuttgart

Kölner Stadt-Anzeiger

In the field of art movements are often condemned on hearsay evidence despite the plausible arguments that can be put forward in their favour. This occurs time and again when a new style suddenly springs up to challenge an old and well-loved system of aesthetics.

Nothing has changed since those remote times when the Impressionists were scorned. It is only ten years since Pop Art was harshly condemned, though this verdict had to be reversed later as had before it the shattering verdict on abstract art. Why should the reception of American Photographic realism be any better?

Discussions at the Kassel documenta had hardly begun when most art moguls gave it the thumbs down. The verdict was harsh as the artists concerned were accused of distributing illusionist narcotics and depciting reality uncritically without making any attempt to form it creatively.

The prosecutors from the progressive party felt from the very outset that this heinous betrayal of the twentieth-century aesthetic revolution was tantamount to a return of art to the dark ages of stultifying academism.

The judges were prejudiced, the witnesses biased and the jury allowed itself to be swung by emotional arguments. The controversy about the extreme-American realists seemed to be over before it had really begun.

But the condemned movement has now lodged an appeal. Discussions on this overhastily condemned hyperrealism are being conducted at the Württemberg Art Society in Stuttgart, which does not exactly have the reputation of an asylum for reactionary artists for whom the world is still intact.

Eighteen supporters of the infamous movement are on exhibition there. Six of them were not represented in Kassel. All are Americans — art-lovers can therefore see the main ringleaders without their European sympathisers.

Hopes are high that justice will reign supreme in Stuttgart. Here, unlike in Kassel, there are no contrasting artistic groupings producing the fatal effect of a league of conspirators marching in step to the tune of doctrinaire naturalism.

Stylistically, David Parrish's dazzling chrome works are as far removed from Stephen Woodburn's emotional heath landscapes as Lichtenstein's comic strips are from Andy Warhol's cans of soup.

But there is something more important than this newly-gained room for manoeuvre. The accused themselves are able to put their case. The results of a survey printed in the catalogue are to a certain extent surprising.

Despite their alleged fanaticism for reality none of them seem particularly interested in it. Malcolm Morley claims that the subject itself is unimportant and most of the other photographic realists would agree.

McLean's award-winning racehorses, Eddy's shop-window reflections, Salt's automobile wrecks, Cottingham's neon signes, Bechtle's parked cadillacs and Este's shop fronts are all banal, extremely meaningless subjects without any intrinsic importance. The provocative effect of these non-informative paintings is caused less by their content as by their formal aspects.

The artists do not imitate nature but copy photographs which stress false exposures, the common bluish tinges and wide-angle distortions. No attempt is made to touch them up.

The message is the medium itself. Reality is experienced only through the agency of film and photography. The American realists have re-examined the traditional roles of painting and its technological rivals.

They mix the media, move on different levels of reality and adhere less to naturalist tradition than to Magritte's irritating obliteration of the boundaries between image and copy.

Herr Schneede, head of the Art Society, appeals to people not to suspect the photographic realists of copying their subjects uncritically. Their works, he claims, are primarily pictorial reflections on problems of perception.

But the doubters will still ask why a painter should take such trouble to transfer a photograph on to canvas when he could just as well exhibit the photograph itself.

Richard McLean, one of the artists who do not depict the world as it is but as the camera sees it with its optical cliches, has already provided the answer: "That would mean eating the recipe instead of the cake."

Wolf Schön

(Kölner Stadt-Anzeiger, 24 November 1972)

Continued from page 10

been constructed by talented schoolmasters who have been through a good deal of Schiller and Kleist with their classes, have studied Gustav Freytag's "Technik des Dramas" to the letter and take as their idol Paul Ernst.

But Strauss, on a higher and more modern level of consciousness, excels by far this old schoolteacher drama. However, this first play is not quite free of his over-excess of studies.

The last scene of the last act is particularly embarrassing. It is presumably meant to be a laugh. But the acting does not bring this out. As a critic I would like to advise the dramatic adviser Strauss to end the play with the poetic-secretive conclusion of the second act, the nanny's narrative.

Kurt Lothar Tank

(Deutsches Allgemeines Sonntagsblatt, 3 December 1972)

Ralph Goings' *Dick's Union General* painted in 1971 (Photo: Katalog)



Ilja Jefimovich Repin's *The Cossacks from Saporoshje* painted in 1891 (Photo: Kunsthalle Baden-Baden)

Russian Museum works on show at Baden-Baden

Russian Realism from 1850 to 1900 is the title of an exhibition to be seen at Baden-Baden Art Gallery until 25 February 1973 claiming that the art of this period exerted a decisive influence on the movements that were to follow.

One hundred and fifty works from the Russian Museum in Leningrad and the Trotiakov Gallery of Moscow are presented as examples of critical realism, a movement that is to be seen as rebellious, unlike today's Socialist Realism. The leading artists in this movement were in opposition to the social injustice of their period.

Critical realism, based on the work and theories of Pavel Fedotov, can be viewed from two aspects — the historic and aesthetic or the political and socially critical.

One date of historical importance is the year 1863. Thirteen painters and one sculptor who had almost completed their studies at the St Petersburg Academy rebelled against the Senate's choice of subject for a competition.

Instead of having to conform to the subject "The Feast of the Gods in Valhalla" they demanded a free choice. When their request was rejected they left the Academy in protest and founded the famous Peredvishniki group.

DIE ZEIT

The artists of the critical realism movement do not seem to have any aesthetic or political ideologies as their original starting point. What they seem to have had at the beginning was a vivid, unbiased, universal gift of observation where all aspects of life were concerned. It was only from this gift that their social criticism arose.

Nikolai Chernyshevski, the critic who supplied the artists with theories and principles, demanded the intervention of art in life. It cannot be said whether the Peredvishniki followed this demand or stimulated it but, whatever the case, many of the subjects are socially critical.

There is for example Repin's *Volga Boatmen at the Ford*, painted in 1872, which is not his best work because of the theatrical pathos that surrounds it.

But perhaps it is not possible to make a reservation of this type one hundred years after the work was painted. Repin mastered his artistic means splendidly and always indulged in painstaking studies before starting work. His picture, attacked by his contemporaries as a profanation of art, was calculated to shock people in the hope that they would accept his demands.

The critical paintings feature scenes of serfdom, labour in the fields, aspects of bourgeois and peasant life, workers along a railway line and washerwomen. Visitors to the exhibition will also see war scenes, including those by Vassili Vereschchagin who, though not one of the Peredvishniki, painted in similar style.

The exhibition, arranged by Klaus Gallwitz, the head of Baden-Baden Art Gallery, is the best of its type ever seen in the West. But it must not be viewed merely abstractly under the aspect of its aesthetic results.

To do the exhibition justice, it must also be seen from the viewpoint of the historical function of the works presented. If the Russians could in future omit some of their ideological decoration and we could try to understand their history, we would be able to provide a good basis for real encounters.

René Drommert

(Die Zeit, 1 December 1972)

■ EDUCATION

Research team publishes report on problems of teaching infants

Frankfurter Rundschau

Pre-school training and further education have been discussed more and more in the great educational debate of recent years. But the stage before pre-school training, education for children up to three years of age, has been neglected though it is during these years that the basis for individual and social (including democratic) conduct is formed.

Waldemar von Knoeringen, the former SPD deputy chairman, concentrated more and more on educational matters until his sudden death in 1971. He formed an "Early Childhood" study group at the Georg von Vollmar Academy where he was director. This team of young researchers recently published a pamphlet on the results of this research.

"A child's experiences in the first few years of its life determine its future behaviour," the research team concludes, though this is a long-established fact, as are many other of its findings.

But the team must be thanked for collecting relevant information from a variety of scientific disciplines – sociology, psychology, education, medicine, biology and behavioural research – analysing it and publishing its findings in language largely free from scientific jargon. An appendix lists the political measures that should be taken as a result.

Speaking of the education of children in their early infancy, the report states: "If learning situations for social behaviour are missed at certain early phases of development, the loss can often never be made up."

Punishment is not an effective means of teaching children modes of social behaviour, the team states, as the child does not usually know what is expected of it.

Referring to children's homes, the report notes: "As not every mother is a good teacher, the family is not necessarily better than a good education in a home. But the education provided by homes at present is greatly in need of reform."

The authors of the report use their findings as a basis for demands to politicians at all levels, to the authorities, the man in the street, educationalists and parents.

A number of demands deserve special note. Preparation for the difficulties and role of marital partnership and bringing up children must be compulsory even before pupils are sexually mature, the research group states.

The network of advice centres must be extended and their existence must be better advertised. Advice should be given to groups as well as to individuals. This will help people form local parents associations.

Mothers should not need to work full-time in the two years after a child is born. They could be given paid leave or work only on a half-day basis. Job opportunities in this sector must therefore be increased.

Efforts to reduce the isolation of small families should be encouraged by organising experiments with communes, large family units, kibbutz-type establishments and all types of cooperation with neighbours.

A mother should be allowed to have her infant child in hospital with her and vice-versa. The mother is always the important figure in early infancy and children are unable to cope without her during this critical phase.

Adoption should be made easier, especially where babies are concerned, in order to take advantage of the total number of foster parents available. Adoption advice centres must also be established.

The research group also demands a long-term strategy to improve the image of social work, to obtain more and better trained personnel for homes and also attract men into these professions. An improvement in the financial situation is also required.

The study group does not feel that its demands are at all Utopian. The researchers base their optimism on the spread of kindergartens in recent years. Not long ago this would have been considered Utopian.

But one important condition for getting these demands accepted has still to be achieved. "Public awareness of the central importance of infant development must be aroused and intensified," the report concludes.

The preface quotes Hermann Hesse: "We must not begin at the end, with the forms of government and political methods, but we must start at the beginning by building up the personality."

Rudolf Grosskopf

(Frankfurter Rundschau, 24 November 1972)

Teachers/professors association changes course

Professor Erwin K. Scheuch told the seven hundred or so delegates at this year's annual congress of the Bund Freiheit der Wissenschaft (BFdW) in Bad Godesberg that the organisation planned to go on to the offensive.

The association was founded in November 1970 and work in the initial phase of its existence mainly involved counteracting the mood of resignation prevalent among teachers and professors and informing the public of important events, especially those that took at university. But now the association plans to publish its own ideas on educational policy.

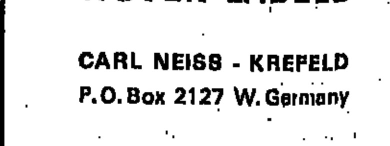
Its main demand is for a reform in teachers' pay structure throughout the Federal Republic and a change in the regulations relating to the civil service. But it is making no proposals concerning a draft university law.

The BFdW has four thousand members, 35 per cent of them professors, nine per cent assistant lecturers and six per cent students. The remainder are teachers, lawyers, doctors and other professional men. In principle anyone can become a member.

The association insists that it is not a professorial organisation and states that it is strictly neutral where political parties are concerned.

Its aim is to deal with all educational problems from the pre-school stage to university. But it hit the headlines because of its remarks about left-wing activities at universities. Professor Richard Löwenthal, one of the members of the BFdW executive, would like to place greater emphasis on the association's liberal elements in future.

(Handelsblatt, 24 November 1972)











■ MEDICINE

Worried gynaecologists say abortion is always risky

Frankfurter Rundschau

Gynaecologists, or at least the majority of them, are convinced that the abortion law is in need of reform. But they put forward irrefutable gynaecological arguments when asked how this is to be done.

Abortion is not merely a legal or moral problem. Professor Heinz Kirchhoff, head of Göttingen University Women's Hospital, stresses that even legal abortions sometimes lead to complications. These complications, he states, form a weighty argument against raising all restrictions on abortions during the first three months of pregnancy.

Writing in the *Deutsches Ärzteblatt*, a medical journal, Professor Kirchhoff first destroys an old argument often raised against the existing abortions law – the large number of death resulting from the quackery of back-street arbortionists.

"Though they do little to enhance the reputation of the medical profession, back-street abortionists have become extinct apart from a few relics here and there," he writes. "Abortions are conducted more skilfully today by an expert who gives his patients antibiotics." Doctors carry out 87 per cent of all abortions, the women themselves eight per cent and other persons only five per cent.

That is far from being an argument for the retention of the existing abortion law as this would remain the useless legal instrument it is in view of the large number of undiscovered cases.

There is already a list of conditions that must be met before an abortion may be carried out. Supporters of a solution based on a list of conditions want its scope to be considerably increased.

Professor Kirchhoff admits of course that legal abortions in the Federal Republic are normally only conducted on sick women as the list of conditions allowing a termination of pregnancy are of a basically medical character. It must therefore be reckoned that complications would not result so commonly where perfectly healthy women are concerned.

But international statistics of health damage resulting from legal abortions register the frequency rates of inflammations at anywhere between 0.19 and 23.5 per cent, secondary infertility at between 0.3 and 45 per cent, extra-uterine pregnancies at up to 0.5 per cent, complications during further pregnancies in up to 1.6 per cent of cases, menstruation disorders at between 1.9 and 47.8 per cent, discharges at between 2.3 and 24.9 per cent, thromboembolies at between 1.08 and 8.24 per cent, disorders of a nervous of hormone character at 0.47 per cent, sexual disorders at between 2.7 and 33.3 per cent and mental disorders at 4.5 to 59 per cent.

It would be wrong to object that these figures are valid only where medically justified abortions are concerned as statistics for States in which all abortions are legal or at least were legal for a certain period are included.

It was these complications – and not ideological reasons, as is often claimed – that caused the Soviet Union to reverse its decision to legalise abortion a few years after the original ban had been lifted.

The complication rates vary considerably. Professor Kirchhoff stated that the low rates were recorded almost exclusively in countries where abortions are conducted on an outpatient basis.

"This is the case in almost all Eastern bloc countries, I find," Professor Kirchhoff commented. "Britain too is a good example. Women who have been given this type of abortions in London are often admitted to our hospitals with serious complications. The cases conducted on an outpatients basis do not of course appear in the statistics issued by Britain and the Eastern bloc countries."

In other words, the low complication rates must be viewed with extreme caution. Statistics based on thorough examinations conducted at a women's hospital in Debrecen, Hungary, on the other hand register a 9.9 per cent rate for inflammations occurring as primary complications and also mentions that 65 per cent of the women did not become pregnant again after an abortion. Statistics from New York register a ten per cent complication rate among a total of 42,598 induced abortions.

Professor Kirchhoff also mentioned another consequence of abortions. The number of premature births rises in proportion to the number of abortions conducted. This should be borne in mind when discussing the pros and cons of abortion law reform and the alleged annual figure of fifteen thousand deaths that follow illegal abortions in the Federal Republic. This figure must be wrong as the average annual mortality rate for women in the 15 to 45 age group since 1965 is only 13,308.

Wolfgang Bartsch

(Frankfurter Rundschau, 24 November 1972)

Driver sight tests

The Opticians Association demanded compulsory sight tests for drivers over sixty at a recent congress held in Wiesbaden. The opticians described the memorandum of a specialist committee appointed by the Federal Health Bureau as an important contribution to the increase of road safety. The Association believes that some sixty per cent of elderly drivers would fail the proposed sight tests.

(Münchner Merkur, 27 November 1972)

Women are more sickness-prone than men

Kölner Stadt-Anzeiger

Women seem more susceptible to illness than men. Statistics reveal that women suffer more from circulatory disorders, digestive complaints, metabolic illnesses and venereal diseases. Men on the other hand suffer more than women from diseases affecting the respiration.

A thorough analysis of medical statistics by the Federal Statistics Bureau in Wiesbaden and an additional survey revealed this trend. The findings have now been published but the statistics are already out of date – they are based on the 1970 census.

Fourteen million or 23 per cent of the 60.4 million inhabitants registered under the 1970 census claimed to be sick or injured. Among those having hospital or outpatients treatment there was an extremely high proportion of people with chronic complaints – nine million or 14.5 per cent of the total population.

Dividing the figures according to sex, the Statistics Bureau found that 25 per cent of females and 21 per cent of males were recorded as sick or injured during the period covered by the survey. Seventeen per cent of the women had chronic complaints compared with twelve per cent of the men.

Almost one third of the thirteen million patients suffered from a circulatory disorder. Half of them were women. Over two million patients had a respiratory disorder.

(Kölner Stadt-Anzeiger, 24 November 1972)

1,200 anaesthetists attend Hamburg conference

Doctors hope that new technical and pharmalogical procedures will bring some relief to patients threatened by a fatal insufficiency of the heart, circulation or, primarily, the lungs, more than twelve hundred delegates at the Anaesthetists Association annual congress in Hamburg were told.

But how does the vital oxygen supply travel from the lungs to the cells of the various tissues under normal conditions and under a state of stress? Can this process, in which haemoglobin normally plays a decisive part, be mechanically induced in the long term or even improved by prescribing certain pharmaceutical products when the body is threatened by what can be described as internal suffocation?

Professor M.B. Laver of Havard Medical School, based in the Massachusetts General Hospital in Boston, claimed that there were in all probability means of improving the way the organism made use of the oxygen supply in the blood.

Iodine seems to be one of those substances that improve oxygen utilisation by means of a complicated biochemical process. An improvement of this type is of decisive importance for the survival of organs such as the heart or brain that require a particularly large amount of oxygen and which register a wide difference between the oxygen pressure in the arteries and in the veins. Specialists speak of a large A-V differential.

As often happens in medicine, researchers in Boston discovered quite by chance that iodine could be of particular benefit here. During experiments with substances used as a contrast in X-rays, they found that substances with an iodine content not only produced the desired contrasts in the X-rays of the organs being examined but also increased the utilisation of the oxygen received.

Professor Laver and his staff analysed this extraordinary phenomenon more closely and found that this effect is only achieved when the chemical contrast substances had iodine atoms at specific positions in their molecular structures.

The iodine atoms had to be in a certain place in a hexagonal carbon molecule. If they were found in a different position oxygen utilisation was not improved. In fact it was worse. "Here we have a possibility of using a completely new type of pharmacology in the organism's oxygen supply," Professor Laver comments.

The long-term membrane oxygenator should also provide new possibilities for such intensive treatment in future. Professor W. Zapol and other doctors belonging to the Boston team, as well as a number of specialists from the Federal Republic, told the congress about the technical details of this apparatus.

The long-term membrane oxygenator is basically an artifical lung machine in which the patient's blood travels through a membrane and pump system, as in other machines of this type, is brought into contact with the oxygen needed by the organism and pumped back into the patient's bloodstream.

But whereas normal lung machines, usually known as heart and lung machines as they also take over the pump function of the heart muscle, are only used for a number of hours to help maintain a patient's circulation and oxygen supply during a difficult operation, the extra-corporal long-term membrane oxygenator can be employed for longer periods when a patient is threatened by lung failure.

This long-term operation involves a number of serious technical and physiological difficulties. A normal artificial lung can only be used without risk to the patient when an anti-coagulative substance like heparin is added to the blood. Otherwise there is a tendancy for the blood to clot, leading to an embolism or heart attack.

But during long-term extra-corporal oxygenation, blood must be continually extracted from a vein, fed through the oxygenator and pumped back into a vein or artery after being enriched with oxygen.

If coagulation is reduced too much there is the danger of critical bleeding at the points where the machine's silicon pipes are attached to the natural veins or arteries. Dr Laver states that only four people have so far survived long-term treatment of this type.

Christoph Wolff

(Die Welt, 27 November 1972)

More pacemakers

Some fifteen to twenty thousand people in the Federal Republic have a heart pacemaker, Professor Friedrich-Ernst Stieve of the Federal Health Bureau in Berlin estimates. There has been a considerable increase in the number during the past few years.

A survey of 103 hospitals in the Federal Republic and West Berlin reveals that the number of operations involving a heart pacemaker increased by 150 per cent between 1968 and 1971 and now total about five thousand a year.

All age groups have heart pacemakers. Small children have them, the Federal Health Bureau reports. Pacemakers eliminate disorders in the heart rhythm by artificially inducing heartbeats through minor electrical stimuli.

(Neue Hannoversche Presse, 29 November 1972)

Body ignorance

A representative survey on medical matters conducted by the Wickert Institute of Tübingen reveals that people here are astonishingly ignorant about the functions of the organs of the human body.

Only 68 per cent of the 2,067 persons interviewed were able to point, accurately or approximately, to where the human heart is found, while 32 per cent of the sample – all over eighteen – gave an incorrect reply.

Only 47 per cent had an idea of where the stomach was situated. Only 49 per cent were able to point to the lungs and 39 per cent to the kidneys. One in four of the sample was unable to state whether humans have one or two kidneys.

(Frankfurter Rundschau, 29 November 1972)



■ OUR WORLD

Violence is more dangerous than porno, expert claims

Frankfurter Rundschau

Rudolf Stefen, head of the Federal Republic agency that monitors publications for young people, claimed, at his most recent press conference, that he had become a 'heavyweight' in his work of watching out for brutality and violence in publications that might fall into the hands of the young.

Stefen has been appointed for a further three-year term as head of the agency. He commented that he would try to ensure in the future that there was less brutality shown on television, particularly during the times when young people might be watching.

Stefen regretted that in comparison with pornographic writings only a few dealing with violence, racial hatred and the horrors of war were banned. He could do nothing about this since his agency is responsible only to education authorities of the Federal states and central government.

He pointed out that in this connection all bans against brutal books and magazines had been approved whilst bans for shows including nude scenes had been rejected.

Basically, Rudolf Stefen maintains, his office supports all magazines that deal with problems of sex, the media and anti-violence at an intellectual level. During the next Bundestag period it is hoped to deal with bills referring to reform of the civil code. It is proposed, for the first time in the law in this country, to make punishable depictions of violence, glorifying it, and racial hatred. But it is proposed to liberalise legislation dealing with sex such as pornography and pandering.

(Frankfurter Rundschau, 27 November 1972)

Insect sale

Swop cookchafers for bugs was the slogan used at the 85th Insects Fair in Frankfurt, attended by 2,000 etymologists from the Federal Republic and overseas.

More than 10,000 mounted butterflies of varying colours, dragon-flies, crickets, long-legged and thick-bodied spiders, beetles and bugs were to be seen mounted under glass.

Prices varied considerably but collectors were asking from 30 Pfennigs to 4,000 Marks for items.

(Bremer Nachrichten, 6 November 1972)

Vain men

Males in the Federal Republic spend 638 Marks annually for clothes. Almost as much as women, according to the Infas Institute, Wiesbaden, commissioned by a synthetics materials manufacturer.

Women only spend 31 Marks more annually on clothes, the survey revealed.

According to the Infas Institute men have in the past few years become infinitely more fashion conscious.

Young men spend the most on clothes – 741 Marks in the age group 25 to 34, then 703 Marks in the 20 to 24 group.

Very young men give the most attention to being right up with the fashions. In the 16 to 29 age group as many as 38 per cent dress in the latest fashion, from 30 to 39 the figure drops to 29 per cent and among the forty to fifty year olds the figure drops to eleven per cent.

(Hamburger Abendblatt, 24 November 1972)

Free Pills

Ernst Knuth, mayor of Osterholz-Scharmbeck has suggested that people in his district who are not too well off should be supplied with The Pill free of charge by the community.

Mayor Knuth has established after talks with the social welfare department that contraceptive pills are not provided for by local legislation, but the local welfare office has agreed to accept these charges.

The authorities in Osterholz-Scharmbeck will not be particularly burdened with these charges because the costs that would have had to be met for unwanted children would have been higher.

This is a unique step for a local mayor to take.

(Nordwest Zeitung, 24 November 1972)

Long march for a lost bet

For having lost a bet concerning the outcome of the elections for the 7th Bundestag press photographer Jürgen Christ, 28, was committed to walking from one end of the Federal Republic to Flensburg.

Christ had made his bet with Hans Peter Schäfer, a local government official in Cologne and a member of the Young Socialists.

Christ said: "I was sure that Brandt would win but that CDU would remain the strongest party in the Bundestag. I could not see how Schäfer's optimisum about the strength of the SPD in the Bundestag could be justified." The two committed their bet to paper.

On the 1 December the loser is bound to set out on the march through the Bundestag. He can only sleep at night in a tent – provided by the Bundeswehr – and can only eat food prepared by himself – again the Bundeswehr is to loan eating and cooking utensils. The trip from the northern frontier of the Federal Republic to the Austrian frontier must be done in 30 days and at the end a Federal Republic flag must be hoisted on a 2,000 metre high mountain. For this last difficult stretch of the march the loser can ask for help from a mountaineering club of the Federal Republic Frontier Guard.

The Federal Republic meteorological office has predicted the coldest December for twenty years. If Christ gives up he must pay the winner 10,000 Marks.

(Neue Hannoversche Presse, 25 November 1972)

■ SPORT

Cne's Sports Ursity – 25 yeaf operations

Frankfurter Allgemeine

To find out ho;ou can swim you only needon a pair of swimming trunks new pool at Cologne Sports A on 29 November. The brand-nming centre was open to the pubiree hours.

People who tume;rely to watch never had a dull mother. Physical education studentsstaff demonstrated their prow;a variety of disciplines at the oj held by the Federal Republic S)niversity, to give it its full title.

This gesture was aitentious way of celebrating the tfifth anniversary of the academy'sation.

In eight gyms the is presented a cross-section of theirsity courses, including demonstratf gymnastics, judo, football, ha; volleyball, basketball and table te

Games for the di were held. Video recorders illust training demonstrations. Films ddlers being taught to swim werewn, as were further recordings ofschool gymnastics and therapeutic riding.

The open day assumore official proportions over the lhour, though the academy entrance loes not lend itself particularly to pland circumstance.

Dr Wilhelm Kregel, dent of the Federal Republic Sportigue (DSB), talked in terms of the t hopes and expectations the DSB ced in the Sports Academy, fromich it was hoped fundamental imp in training and research would cont to emerge.

Sport, Dr Kregel conti, would not achieve adequate recogn, however, until such time as it ccorded its rightful standing in gen education planning.

Willi Daume, president the National Olympic Committee, recalhat despite difficult post-war condit and poor employment prospects theudents had been enthusiastic at the ceration held to mark the establishmenf the academy a quarter of a centuryo.

In those days, Daume cotnued, Carl Diem, the academy's first vice-chancellor, was asked what he proposed to do in Cologne, where 300,000 people were already on the brnk of starvation. "Then we will starve too," Diem countered. This, Daume felt, was an anecdote well worth recalling now and again. He doubtless had in mind a group of current students who had issued a *Festschrift* denoting sports students as a scientifically and politically negative select group and calling for the incorporation of the academy into a comprehensive university.

Yet the independent status of the Sports Academy is one of its most cherished possessions, even though it has led a somewhat chequered career over the past twenty-five years.

In the wake of difficulties and bans characteristic of the period the academy was set up in 1947, 100 students being confronted with bombed-out sports facilities.

Past considerations

Three cities were short-listed – Frankfurt, Cologne and Munich. Carl Diem, the man who set up the first Sports Academy in Berlin, where the idea came into being near Grunewald Stadium in 1920, was called on to supervise reconstruction in Cologne.

His wife Liselott Diem is still a head ot department in Cologne and the number of students enrolled has increased to 1,516 including 210 foreign nationals from no fewer than 37 countries.

Like its pre-war predecessor, the Cologne academy has made an international name for itself in training and research. It employs 98 professors and lecturers and 53 assistant lecturers.



Women judokas in action (Photo: Schirner)

It has at its disposal an extensive complex of sports facilities, including the swimming centre of the ASA, and a number of major prospects, including an athletics hall and a block of flats for 400 students, are on the drawing-board.

By virtue of the initiative shown by sporting North Rhine-Westphalian Interior Minister Willi Weyer the state government assumed responsibility for the academy in 1962. Until then it had led a precarious existence as a public corporation.

In 1965 it was granted full university status, up till then having rated itself a department of physical education affiliated to Cologne University.

The final step in this direction was taken on 7 April 1970, since when the academy has been entitled independently to award PhDs and assess the further-reaching theses required of German aspirants to an academic appointment.

At the special request of the state government the panhandle of a PhD in physical education is „Dr. Sportwiss." (doctorate in sports sciences).

Cologne has always been a great believer in Carl Diem's tenet of scientific practice and practice-orientated research. One of the first football courses held at the academy was presided over by Sepp Herberger, trainer of the national team.

Current staff include such nationally and internationally famous sporting names as Hugo Budinger (hockey), Wolfgang Hofmann (judo), Helmut Bantz (gymnastics), Werner Vick (handball), Rolf Herings, Heide Rosendahl and Dr August Kirsch (athletics), Wolfgang Bochow (badminton) and Dr Günter Hagedorn (basketball), to name but a few.

The fun and games on anniversary day did not really get under way until the afternoon, though, when the entrance hall and corridors were transformed into a fun fair for young and old alike, with music and games arranged by the students.

Cologne families came in large numbers and clambered over old car tyres, through inner tubes, painted walls and windows in bright colours, shinned up poles and climbed ladders, took pot shots at goals, jumped on trampolines and aimed at lighted candles with water pistols.

Herbert Neumann

(Frankfurter Allgemeine Zeitung für Deutschland, 1 December 1972)

Women judokas – hardly a beautiful apparition

It may be five years ago now but Karin Friedrich of Herten can well remember what decided her to take up judo. After being badly jostled she decided it was high time she took up the noble art and she is now not only a three-time Federal Republic champion but a member of the European judo elite.

Her tale is typical of the reasons why women take up judo, but self-help in an emergency is not the end of the story. Women judokas have more in mind than merely incapacitating handbag snatchers on their way home from work.

What they want first and foremost is to compete on the mat and in front of the general public for championship honours, just like the men. In Europe at least they have already made their breakthrough.

Women judokas in this country have played a not inconsiderable role in this systematic emancipation. The women's open championships recently held in Rüsselsheim, Frankfurt, may be regarded as the first hesitant attempt to launch what may herald European championship competitions.

Charles Palmer, the London night-club owner who is president of the international judo federation, is no longer strictly opposed to women judokas either.

Indeed, he has called on European national associations to submit plans in time for the men's European championships in Madrid next May suggesting how best to hold competitions for women.

In Holland and Switzerland, Denmark and the GDR emancipation in judo is frowned upon. In these countries the argument is that kata, a choreographic judo display, and self-defence courses are more than enough for the fair sex.

Women fighting it out on the mat are an unaesthetic sight, it is often argued. "Some people may still find us a little

DIE WELT

exotic," Karin Friedrich comments, "but it is a long time now since people took a dim view of us."

Ask women judokas what they have in mind and they will refer not to Japan, the homeland of judo, but to Czechoslovakia, where the first women's judo took place in 1928.

Zora Zbavitelava, who holds a chair in sport at Prague University and specialises in skiing and judo, keeps a close eye on women's judo.

In a report discussed at various European judo congresses she writes that "all along the line we have consulted experienced doctors – sports specialists and gynaecologists – during training." Judo, Professors Sebek and Pros, also of Prague, conclude, is no health hazard whatsoever for women.

In order not to detract from the optical beauty of the sport head-throws are prohibited in the GDR and strangleholds in Switzerland, for instance.

It would also be more to the point, it is argued, for women to be trained by women in future. According to Martha Schwanzerova, a successful judoka and Bratislava coach, "only a woman can be the judge of what special techniques are best suited to her constitution."

The Italians have already acted on this assumption. Training facilities for women judo coaches have been set up in Rome. A thorough three-month course costs 80,000 lire.

Klaus Blume

(Die Welt, 2 December 1972)

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